TOWN COUNCIL – AGENDA REQUEST FORM

THIS FORM WILL BECOME PART OF THE BACKGROUND INFORMATION USED BY THE COUNCIL AND PUBLIC

Please submit Agenda Request Form, **including back up information**, 8 days prior to the requested meeting date. **Public Hearing requests must be submitted 20 days prior to the requested meeting date to meet publication deadlines** (exceptions may be authorized by the Town Manager, Chairman/Vice Chair).

MEETING INFORMATION

Date Submitted: 10/14/15

Date of Meeting: 10/22/15

Submitted by: Kyle Fox

Time Required: 20 Minutes

Department: Public Works

Background Info. Supplied: Yes ☒ No ☐

Speakers:

CATEGORY OF BUSINESS (PLEASE PLACE AN "X" IN THE APPROPRIATE BOX)

Appointment:	☐	Recognition/Resignation/Retirement:	☐
Public Hearing:	☐	Old Business:	☐
New Business:	☒	Consent Agenda:	☐
Nonpublic:	☐	Other:	☐

TITLE OF ITEM

MS4 Update; Request to withdraw up to $5,000 from the Infrastructure Capital Reserve Fund to rejoin the MS4 Coalition of Towns

DESCRIPTION OF ITEM

The Environmental Protection Agency (EPA) recently reissued several sections of the 2013 draft MS4 permit for Public Comment Period. Public Works would like to rejoin the MS4 Coalition of Towns that was formed in 2013 to comment on the draft permit.

REFERENCE (IF KNOWN)

RSA:

Warrant Article:

Charter Article:

Town Meeting:

Other:

N/A:

EQUIPMENT REQUIRED (PLEASE PLACE AN "X" IN THE APPROPRIATE BOX)

Projector:	☐	Grant Requirements:	☐
Easel:	☐	Joint Meeting:	☐
Special Seating:	☐	Other:	☐
Laptop:	☐	None:	☐

CONTACT INFORMATION

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Address: **6 Baboosic Lake Road**

Phone Number: 424-5137

Email Address: kfox@merrimacknh.gov

APPROVAL

TOWN OF MERRIMACK
INTER--DEPARTMENT COMMUNICATION

DATE: October 14, 2015
AT (OFFICE): Public Works Department

FROM: Kyle Fox, P.E. KF
Deputy Director/Town Engineer

THRU: Eileen Cabanel
Town Manager

SUBJECT: **MS4 Update**

TO: Town Council

The US Environmental Protection Agency (EPA), Region 1 issued revised sections of the 2013 draft MS4 (Municipal Separate Storm Sewer Systems) permit for public comment on 9/1/15. Comments on the revised sections are due to EPA by November 2, 2015. The reopened comment period applies to the following sections only: Section 2.1.1, Section 2.2 (including all subsections) and Section 2.3.6 (including all subsections), Appendix F (excluding attachments) and Appendix H (excluding attachments). The EPA expects to issue the final permit in April, 2016.

In 2013, the Town of Merrimack joined 19 other NH communities to form a MS4 coalition to hire a legal team to assist in providing comments to the EPA on the draft 2013 permit. Comments were submitted on behalf of the coalition in August of 2013. We submitted separate comments specific to Merrimack concerns as well.

The revised sections of the draft permit noted above improve upon the 2013 draft permit but still offer serious concerns for Merrimack and the other MS4 communities. Following a meeting with the coalition's legal team and many of the coalition members last week, we are looking to rejoin the coalition to perform the following tasks:

- Provide comments to EPA on the revised sections noted above
- Work with NHDES to update/amend certain standards so they are in line with other states (the EPA enforces the standards set by the NHDES)
- Work with the NH Congressional Delegation to foster communication with the EPA on a Federal level prior to issuance of the permit by EPA

The cost to rejoin the coalition is dependent on the number of communities that join but is expected to be between $2,500 - $5000. We recommend utilizing the drainage portion of the Infrastructure Capital Reserve Fund for the tasks outlined above.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND - REGION I
5 POST OFFICE SQUARE, SUITE 100
BOSTON, MASSACHUSETTS 02109-3912

Statement of Basis for

Proposed Modifications

SECTION 2.1.1, 2.2 (INCLUDING ALL SUBSECTIONS), AND 2.3.6 (INCLUDING ALL SUBSECTIONS), APPENDIX F (EXCLUDING ATTACHMENTS) AND APPENDIX H (EXCLUDING ATTACHMENTS) OF THE DRAFT GENERAL PERMITS FOR STORMWATER DISCHARGES FROM SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS IN NEW HAMPSHIRE

NPDES PERMIT NUMBERS:

NHR041000 –Traditional cities and towns

NHR042000 – Non-traditional state, federal, county and other publicly owned systems

NHR043000 – Non-traditional transportation systems

PUBLIC COMMENT PERIOD: September 1, 2015 through November 2, 2015

HISTORY

EPA revised the 2008 draft New Hampshire small MS4 permit and re-issued a new draft permit (2013 draft permit) for public comment on February 12, 2013. The comment period was set to expire on April 15, 2013. However, the comment period was extended two times in response to multiple requests to extend the public comment period. Following the two extensions, the public comment period was from February 12, 2013 through August 15, 2013. In response to many comments received on the 2013 draft MS4 permit for New Hampshire and changes to NH Water Quality Standards, EPA has significantly revised section 2.1.1, 2.2 (including all subsections), and 2.3.6 (including all subsections), Appendix F (excluding attachments) and Appendix H (excluding attachments).

PROPOSED ACTION

Pursuant to 40 CFR §124.14, EPA is reopening the public comment period only for certain provisions of the Draft National Pollutant Discharge Elimination System (NPDES) General Permit for Small Municipal Separate Storm Sewer Systems (MS4s) in the state of New Hampshire. EPA is re-opening the comment period because of information submitted during the initial public comment period, and changes to New Hampshire water quality standards appear to raise substantial new questions with regard to certain draft permit requirements. *See* 40 CFR §124.14(b). Therefore, EPA is proposing to revise only these particular draft permit requirements and has prepared revised sections to the draft permit so that the public may review and comment on the revisions. *See* 40 CFR §§124.14(a)(2), (b) and (c).

EPA is reopening the comment period for the 2013 draft New Hampshire small MS4 permit to take comments on new language in section 2.1.1, 2.2 (including all subsections), and 2.3.6 (including all subsections), Appendix F (excluding attachments) and Appendix H (excluding attachments) only, comments received pertaining to other sections of the 2013 draft MS4 permit will not be addressed prior to final issuance of the MS4 permit for New Hampshire. The new proposed section 2.1.1, 2.2 (including all subsections), and 2.3.6 (including all subsections), Appendix F (excluding attachments) and Appendix H (excluding attachments) will completely replace the sections in the 2013 draft permit released February 12, 2013.

Consistent with 40 CFR §§ 124.14(a)(2) and (c), and as stated above, EPA is re-noticing only certain provisions of the draft permit and is not seeking additional comment on any of the draft permit's other provisions.

Since this is a re-opening of a public comment period, EPA will follow the procedures in 40 CFR §124.14. EPA will re-open the public comment period for 60 days from the date of publication of this notice in the Federal Register. Upon completion of the 60 day comment period, EPA will provide an additional 20 days from the close of the comment period, during which time any interested person may file a written response to the material filed by another person. *See* 40 CFR §124.14(a)(1).

BASIS FOR MODIFICATION

NPDES permits must be consistent with applicable state water quality standards and regulations. When EPA drafted the 2013 draft New Hampshire small MS4 permit, New Hampshire regulations did not allow for the use of compliance schedules in NPDES permits. On November 22, 2014, Env-Wq 1701.03 "Compliance Schedules in NPDES Permits" was adopted into rule and became effective, allowing compliance schedules to be put into NPDES permits. Accordingly, EPA has amended the language in Sections 2.1.1 and 2.2 and Appendix F and added specified schedules leading to compliance with water quality standards which are consistent with Env-Wq 1701.03 and 40 CFR §122.47.

EPA also received multiple comments on section 2.2 and Appendix H seeking clarity of permit terms and applicability of requirements. Pollution from urban stormwater runoff is well documented as a leading cause of impairment of freshwater lakes, rivers, and estuaries (US EPA, 2009); (National Research Council, 2008). A number of harmful pollutants are contained in urban stormwater runoff, including the following major constituents: Nutrients (nitrogen and phosphorus), Bacteria/Pathogens, Chloride, Solids, Oil & Grease (Hydrocarbons), and Metals (Center For Watershed Protection, 2003); (US EPA, 1999); (Shaver, et al., 2007); (Lin, 2004); (Schueler, 2011); (Pitt, et al., 2004) (Clark & Pitt, 2012); (National Research Council, 2008). Literature review and analysis of National Stormwater Quality Dataset (NSQD) data of urban stormwater constituents indicates that it can be reasonably assumed that stormwater discharges from urban areas in New England contain bacteria/pathogens, nutrients, chloride, sediments, metals, and oil and grease (hydrocarbons). This is not to say that every grab sample of stormwater will always contain each of the aforementioned stormwater constituents, however, if sufficient data is available for any single urban stormwater discharge, the average concentrations of bacteria/pathogens, nutrients, chloride, sediments, zinc (metals), and oil and grease (hydrocarbons) will likely be present. When a waterbody is found to be impaired pursuant to Clean Water Act (CWA) Section 303(d) or 305(b) for a particular pollutant, or the receiving water is experiencing an excursion above water quality standards due to the presence of a particular pollutant, it indicates that the waterbody has no assimilative capacity for the pollutant in question. EPA reasonably assumes that urban stormwater discharges from urbanized areas in New England contain bacteria/pathogens, nutrients, chloride, sediments, metals, and oil and grease (hydrocarbons) and finds that MS4 discharges are likely causing or contributing to the excursion above water quality standards when the receiving waterbody impairment is caused by

bacteria/pathogens, nutrients, chloride, metals, sediments or oil and grease (hydrocarbons). EPA has determined that it is appropriate to require additional controls on such discharges to protect water quality. Accordingly, EPA has revised section 2.2 and Appendix H to provide clarity of permit requirements and certainty on applicability of permit provisions.

EPA also received multiple comments on section 2.3.6 seeking clarity on provisions, closer adherence to state law and a reduced administrative burden. EPA has revised section 2.3.6 accordingly.

A comprehensive summary of the basis for the draft permit conditions including the applicable statutory and regulatory authority and is included in the original Fact Sheet to the 2013 draft MS4 permit for New Hampshire. In addition, the administrative record for this permit can be viewed at the EPA Region 1 office upon request.

ADMINISTRATIVE RECORD, PUBLIC COMMENT PERIOD, HEARING REQUESTS AND PROCEDURES FOR FINAL DECISION

All persons who believe any conditions that are included in this re-notice are inappropriate must raise all issues and submit all available arguments and all supporting material for their arguments in full by the close of the comment period to Newton Tedder, U.S. EPA, Office of Ecosystem Protection, Stormwater and Construction Permits Section, 5 Post Office Square, Suite 100 (OEP06-4), Boston, Massachusetts 02109-3912.

Any person, prior to such date, may submit a request in writing for a public hearing to consider only the conditions that are included in this re-notice to EPA. Such requests shall state the nature of the issues proposed to be raised at the hearing. A public hearing maybe held after at least thirty days public notice whenever the Regional Administrator finds that response to this notice indicates significant public interest. Region 1 will provide an additional 20 day comment period extending from the close of the public comment period to November 20, 2015, during which any interested person may file a written response to the material filed by any other person. Public comments will be added to the Administrative Record in a timely manner to allow for review and response during the additional 20-day period. In reaching a final decision on the draft permit, the Regional Administrator will respond to all significant comments and make these responses available to the public.

Following the close of the comment period, and after a public hearing, if such hearing is held, the Regional Administrator will issue a final permit decision and forward a copy of the final decision to each person who has submitted written comments or requested notice.

EPA CONTACT

Additional information concerning the re-noticed conditions of the draft permit may be obtained between the hours of 9:00 am and 5:00 pm, Monday through Friday, excluding holidays, from the EPA contact below:

Newton Tedder
EPA- Region 1
5 Post Office Square, Suite 100 (OEP06-4)
Boston, Massachusetts 02109-3912
(617) 918-1038
Tedder.newton@epa.gov

Works Cited

Center For Watershed Protection, 2003. *Impacts of Impervious Cover on Aquatic Systems,* Ellicott City, MD: Center For Watershed Protection.

Clark, S. E. & Pitt, R., 2012. Targeting treatment technologies to address specific stormwater pollutants and numeric discharge limits. *Water Research,* Volume 46, pp. 6715-6730.

Lin, J. P., 2004. *Review of Published Export Coefficient and Event Mean Concentration (EMC) Data,* Vicksburg, MS: U.S. Army Engineer Reserach and Development Center.

National Research Council, 2008. *Urban Stormwater Management in the United States,* Washington, D.C.: National Academies Press.

Pitt, R., Maestre, A. & Morquecho, R., 2004. *The National Stormwater Quality Database (NSQD, Version 1.1),* s.l.: s.n.

Schueler, T., 2011. *Technical Bulletin No. 9: Nutrient Accounting Methods to Document Local Stormwater Load Reduction in the Chesapeake Bay Watershed REVIEW DRAFT,* s.l.: Chesapeak Stormwater Network.

Shaver, E. et al., 2007. *Fundamentals of Urban Runoff Management: Technical and Institutional Issues,* Madison, WI: North American Lake Management Society.

US EPA, 1999. *Preliminary Data Summary of Urban Storm Water Best Management Practices,* Washington D.C.: US EPA.

US EPA, 2009. *National Water Quality Inventory: Report to Congress 2004 Reporting Cycle,* Washington D.C.: US EPA.

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August 13, 2013

Newton Tedder
Office of Ecosystem Protection
U.S. Environmental Protection Agency – Region 1
5 Post Office Square – Suite 100
Boston, MA 02109-3912

Re: **New Hampshire MS4 Communities' Joint Comments in Response to Proposed Draft General Permits for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems, NPDES Permit Nos. NHR041000, NHR042000 and NHR043000**

Dear Mr. Tedder:

On behalf of the following twenty (20) New Hampshire Small MS4 Communities that comprise the New Hampshire Stormwater Coalition:

Town of Allenstown
Town of Amherst
Town of Atkinson
Town of Auburn
Town of Bedford
Town of Danville
City of Dover
Town of Goffstown
Town of Hampstead
Town of Hampton
Town of Londonderry
City of Manchester
Town of Merrimack
City of Portsmouth
City of Rochester
Town of Salem
Town of Sandown
Town of Seabrook
Town of Stratham
Town of Wilton

Hall & Associates and Sheehan Phinney Bass + Green, PA submit these joint comments in reference to the Draft General Permits for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems, NPDES Permit Nos. NHR041000, NHR042000 and NHR043000.

In addition to these joint coalition comments, many of the above-listed communities are submitting separate comments to address specific issues that relate to the individual concerns of those communities.

The comments are broken down into two sections. The first section starting on page 1 of 49 addresses procedural issues and objections. The second section starting at page 23 of 49 addresses the scientific issues and objections.

We are enclosing a disk containing .pdf formats of the attachments referred to in the comments. If the Agency would like paper copies of any of those documents, we would be happy to provide them.

If there are any questions on the comments or further information is required, please do not hesitate to contact us.

Very truly yours,

John E. Peltonen
Robert R. Lucic
Lynn J. Preston

Enc.

Town of Merrimack, New Hampshire

Public Works Department
6 Baboosic Lake Road, Merrimack, New Hampshire 03054
TEL: (603) 424-5137, FAX: (603) 424-1408

August 12, 2013

Mr. Newton Tedder
US EPA - Region 1
5 Post Office Square, Suite 100
Mail Code OEP06
Boston, MA 02109-3912

RE: Comments/Questions on the 2013 NH Small MS4 Draft General Permit for the Town of Merrimack, NH

Dear Mr. Tedder:

Thank you for the opportunity to provide comments on the 2013 NH Small MS4 Draft General Permit that was issued in the Federal Register on February 12, 2013. On behalf of the Town of Merrimack, New Hampshire, we wish to offer the following comments/questions:

I. GENERAL ITEMS

1. Town Budgets

The Town of Merrimack, NH is a NH SB2 Town that operates on a July 1 to June 30 fiscal year. The typical budget cycle starts in the fall with preparation of proposed department budgets, progresses to Town Council review in December/January; followed by the public hearing in February and the deliberative session in March, culminating in the ballot vote in April. Given that the 2013 MS4 Draft General Permit was issued in February, and knowing that as an agency we cannot budget for an item until the costs are known, I ask that the year 1 implementation dates, and all successive implementation year dates, be set to one year from the first available budget year following issuance of the permit. The 5 year compliance schedule that is built into the 2013 MS4 Draft General Permit is very concentrated and without some adjustment for a town's budget schedule, it makes it very difficult for the Town of Merrimack to be on time and compliant. For example, if the Permit were issued in September of 2014, year 1 accomplishments would be due after July 1, 2016. Scheduling in this manner would allow the Town to review the issued permit during the budget process, determine costs and include those into the budget, allow for the funding to be approved at Town Meeting in April 2015 for July 1, 2015.

2. Cost to the Town

The cost to Merrimack to fund the programs in the 2013 MS4 Draft General Permit is estimated to be in the tens to hundreds of thousands of dollars annually with total costs for the five years in the millions of dollars. A large portion of the costs are related to the TMDL requirements and the IDDE program. Expenditures of this magnitude are out of line with the "maximum extent practicable" standard.

3. Current Efforts and Validation

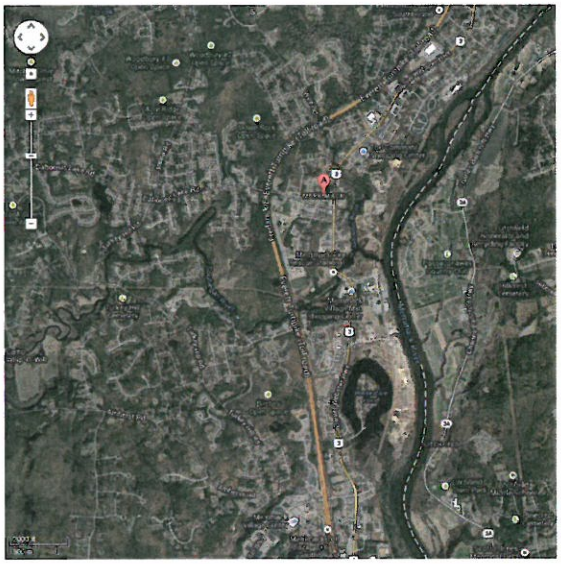
Merrimack has been working under the 2003 MS4 Draft General Permit requirements for ten years and has made significant strides in working toward the shared goal of clean water for the future. The Town has been successful in meeting the requirements of the 2003 MS4 Permit. The long term effect of these efforts since 2003, should be quantified and detailed, with data that is current, sufficient and applicable to get a clear baseline for the draft Permit requirements. We are concerned that there has been limited effort made by the EPA and the NHDES on recording, collecting, and reviewing data during and following the 2003 Permit versus working toward preparing a new permit with greatly enhanced and costly program requirements. It seems that working together incrementally, the EPA, State, and Municipalities can use fiscally constrained resources to achieve the water quality goals in a systematic approach rather than the forced 5-year approach that causes municipalities to spend millions of dollars on program requirements that may or may not achieve the goals. The following is a list of some of the accomplishments by the Town of Merrimack during the last 5 years under the 2003 Permit:

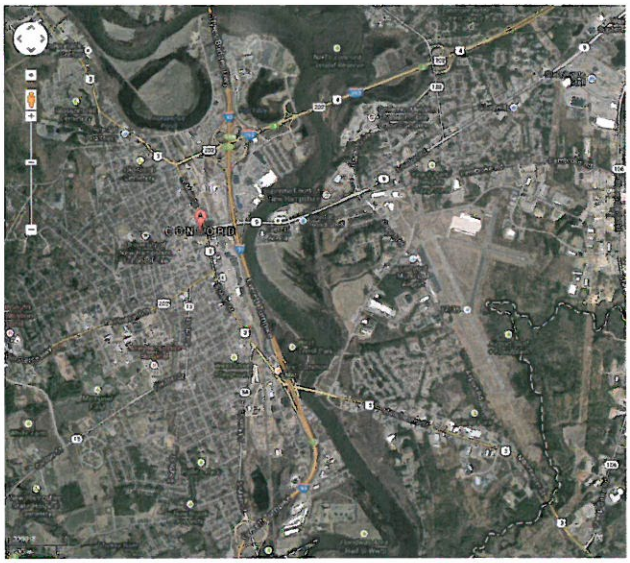
- Completed two major drainage improvement projects (at a cost of $2M) that removed storm water flow that discharged directly to the Souhegan River and diverted the flows into infiltration basins and sedimentation basins
- Revised planning regulations to decrease parking area requirements
- Completed numerous projects that cut back on the amount of pavement for roadway intersection transitions. We continue to look for and plan projects to reduce the impervious areas of our roadways
- Wrote and Implemented a construction and post construction ordinance to include all disturbances over 20,000 square feet rather than the mandated 1 acre
- Worked closely with the Conservation Commission and Souhegan River Local Advisory Committee to brainstorm ideas for improving water quality
- The Conservation Commission continues to look for land purchases to protect resource areas. The Commission now manages over 1400 acres of protected lands in Merrimack

4. Town Program Inclusion

The EPA Stormwater Phase II Final Rule mandates inclusion in the small MS4 program if the municipality is not in the Phase I program and is in an Urbanized Area (UA) as defined by the Bureau of the Census, and on a case by case basis that the NPDES permitting authority designates. The U.S. Census Bureau defines an urban area as: *Core census block groups or blocks that have a population density of at least 1,000 people per square mile and surrounding census blocks that have an overall density of at least 500 people per square mile*. New Hampshire has 8 municipalities with a population density greater than 1000 per square mile with seven of the eight regulated by the MS4 program (Conway is not). NH has 27 municipalities with population densities greater than 500 per square mile. Of those 27, 22 are regulated (Conway, Concord, Keene, Laconia, and Sunapee are not). There are 39 municipalities with population density of less than 500 per square mile that are regulated, with Lyndeborough having the lowest density of only 54 per square mile. Given the large disparity between those that are regulated and not, please explain the criteria used for inclusion to the program.

Merrimack is listed in the Draft Permit as requiring a bacteria TMDL within the Merrimack River watershed. Concord contributes flow to the Merrimack River yet is not an MS4 community. By way of comparison, Merrimack is 12th in population density and 8th in population; Concord is 17th in population density and 3rd in population. A quick look of aerial views of each community shows the Merrimack (left) as a whole is far more rural than Concord (right) (see pictures below - both views taken at same scale). Merrimack requests removal from the program so long as contributing towns with greater areas of density up river are not included in the program.





At seminars on the shoreland protection program, NHDES has suggested that water quality deterioration begins when impervious area within a watershed exceeds 10%. Currently, Merrimack has approximately 7.5% impervious area. Of that total, 1% is directly attributable to the state roads in Merrimack (F.E. Everett Turnpike, Route 101A, Daniel Webster Highway - outside of the urban compact). Will the State be made to contribute 1/7.5 or 13% of the costs Merrimack bears for the stormwater program?

II. GENERAL PERMIT COMMENTS

1. Non-structural BMPs Scheduling

Enhanced non-structural Best Management Practices (BMPs) should be undertaken and completed to the full extent possible before the determination and expensive planning, designing and construction of the structural BMPs are even contemplated. Additional monitoring and analysis should be undertaken once the non-structural BMPs are in place and have had time to take effect. Only then, should the Towns commit to structural BMPs if the non-structural BMPs are not effective enough to effect water quality. In this manner the towns would have the flexibility to adjust programs, projects and goals to insure the maximum amount of efficiency of time, staffing and costs.

2. Scheduling of Non-structural and Structural BMPs in Year 2
Why would the non-structural controls and structural controls need to be detailed and described both in year 2? Much more time is needed to have controls in place and this schedule places a big burden to the Town in time and costs. Non-structural controls should be first and when they have been in place for an appropriate period of time and the effects of the non-structural controls have been quantified and verified then the Town would determine if structural BMPs are needed.

3. Duplication Error
In Table F.1 in Appendix F. MS4s subject to Statewide Bacteria TMDL under the Primary Town listing for Merrimack the Merrimack River and Souhegan River are listed twice. Is this a duplication error or is a specific section of the Rivers being called out? If this is so, then please note this in Table F.1

4. Permit Compliance
We are concerned that in section 1.5 Permit Compliance in Part I of the 2013 MS4 Draft General Permit Requirements it states that "Any non-compliance with any requirement of this permit constitutes a violation of the permit and the Clean Water Act and may be grounds for an enforcement action and may result in the imposition of injunctive relief and/or penalties" The EPA should have the burden to demonstrate that a discharge is causing or contributing to an impairment, not the permittee. In addition, this implies that the Town will be held responsible for the actions of others, such in the case of an illicit discharge that occurs within the MS4 system. The Town would also be held responsible for pollutant loadings generated upstream of its jurisdictional boundaries. The Town should not be held responsible at any time for the actions or discharges of others.

5. Endangered Species Requirements
In section 1.9.1 of Part 1 of the 2013 MS4 Draft General Permit there are requirements that the Town be responsible for determining if federally listed endangered or threatened species are found in proximity to the MS4's outfalls and if such species are adversely affected by stormwater discharges or stormwater related activities, e.g. Best Management Practice (BMP) installations. Compliance with these requirements is the Federal Governments responsibility, not the Towns.

6. Water Quality Based Effluent Limitations
In Section 2.1 of Part 1 of the 2013 MS4 Draft General Permit requirements it is stated that the "permit includes provisions to ensure that discharges from the permittee's small MS4 do not cause or contribute to an excedance of water quality standards". We understand that the Town should not be the cause of an excedance, but a contribution may be possible and numerically may not always be a violation. For example, if a MS4 discharge with a flow of 10 gallons or less per day is in excedance of the water quality standard for bacteria, this may have no additive effect on the millions of gallons of water that are in a receiving stream such as the Merrimack (Merrimack River has a flow of 420 million gallons per day in the Town of Merrimack) and Souhegan Rivers. The EPA and NHDES must show that the Town MS4 system is causing the violations and not that we are just contributing. EPA should have the

burden of demonstrating that a particular discharge is causing or contributing to impairment and not the Town.

7. 60 Day Rule

We feel that the 60 days in which the permittee must come into compliance is limiting and also should not be considered a violation of the Clean Water Act as noted in Section 2.1.1. c. of the 2013 MS4 Draft General Permit Requirements. Tracing a potential source of contamination through possibly dozens of manholes and stormwater structures will take more that 60 days and involve much staff, lab services and time. There should be more flexibility depending on the situation and its complexity and the Town should determine how long it may take. Also, the permittee should not be in violation since the source of the discharge may be outside the MS4 area and possibly in another jurisdiction.

8. Presumption of Contribution to Impairment

In Section 2.2.2 I, of the 2013 MS4 Draft General Permit Requirements the "EPA presumes that MS4 discharges are potential contributors to impairments due to nutrients (phosphorus or nitrogen, bacteria, etc.)". We would like to see real quantifiable testing results as part of the process. A large portion of the data supporting this permit is outdated and of limited quantity.

9. Screening and Sampling Procedures

In Section 2.3.4.9. of the 2013 MS4 Draft General Permit Requirements it states that "the permitttee shall adopt a screening and sampling protocol consistent with *EPA New England Stormwater Outfall Sampling Protocol (Draft, January 2012)"* Since this document is a draft, how can it be inserted into the 2013 MS4 General Permit without being first finalized by the EPA and NHDES.

10. Sump Cleaning Requirements

In Section 2.3.7.1.d.ii of the 2013 MS4 Draft General Permit Requirements there is a requirement that sumps in catch basins are no more than 50% full of materials from storm flow. What is the scientific basis for the percentage of material in a catch basin? The Town has a regular schedule of cleaning. We also note what basins fill more frequently and make an extra stop at these basins during the year. The EPA and NHDES have no authority to regulate the operation of a stormwater unit and the level of water or material in a sump should not be grounds for violation or the Clean Water Act.

11. Definition of Outfall

There is no definition of outfall in Appendix A of the 2013 MS4 Draft General Permit or in any other section or appendix of the Permit. There are many basins and drainage areas in Town that flow to swales and wooded areas. Some of these swales and wooded areas end somewhere before the water body. How do we determine what is an outfall?

12. TMDL Definition

In the 2013 MS4 Draft General Permit Appendix A, the definition of TMDL states that "A TMDL includes waste load allocations (WLAs) for point source discharges, load allocations (LAs) for non-point sources…" The developed TMDLs that are part of this 2013 MS4 Draft General Permit do not have sufficient WLAs. Instead, all of the loading that is causing the impairment is assumed to be discharged as part of the Town of Merrimack's MS4 system. We believe that natural sources of pollutants may be a significant cause of the impairment.

13. Unfunded Mandate

On March 13, 2013 the EPA hosted an informational question and answer session at the NRPC offices in Merrimack. During the session, questions regarding the 2013 MS4 Draft General Permit and the various TMDL portions of the permit were posed to Newton Tedder of the EPA. The response to those questions was that DES was responsible for the TMDL content and he (Newton) could not respond to specifics. It can be gleaned from that session that the TMDL portion of the permit is a NHDES program, making it an unfunded mandate from the State of NH to its municipalities per Article 28-a of the New Hampshire Constitution.

III. TMDL REQUIREMENTS – HORSESHOE POND

1. Impairments Removed from the 303 (D) List of Threatened of Impaired Waters

In the NHDES document entitled Impairments Removed (i.e. delisted) from the 303 (D) list of threatened or impaired waters dated April 20, 2012, it states in Group 21 (Horseshoe Pond (NHLAK700060302-02) Chlorophyll-a for Aquatic Life Use (1), that:

".....In 2010 the assessor accidently set Chlorophyll a as impaired when they should have set Chloride (one row down in the database) as impaired.

In 2010 there was only one sample available for comparison to the Trophic Class based criteria for Chlorophyll a to protect Aquatic Life Use. Subsequent data collections have determined the median chlorophyll-a of 7.6 ug/L (n=13) is well below the 11 ug/L criteria for chlorophyll a and the median total phosphorous of 22.8 ug/L (n=8) is well below the 28 ug/L criteria for total phosphorous for a eurotrophic lake.

The 2020 listing was in error and since sampling indicates that the waterbody meets the chlorophyll a criteria to protect aquatic life for its trophic class, this assessment unit has been removed from the 303(d) List and placed in category 2 (Full Support) for impairment of Aquatic Life due to Chlorophyll-a. Chloride has been added to the 2012 303(d) as an impairment to Aquatic Life Use."

It is important to note that although Horseshoe Pond has been removed from the 2012 Final 303(d) List to the EPA dated July 16, 2013 that a chlorophyll-a listing remains for Horseshoe Pond in the 2012 List of All Impaired or Threatened Waters List dated July 16, 2013. It is clear from this example that NHDES needs to review all TMDLs proposed in the NPDES MS4 Draft permit for current and accurate data. Proceeding otherwise will cause municipalities to spend millions of dollars, perhaps needlessly, trying to meet reduction load limits (the Horseshoe Pond TMDL listed in the Draft Permit requires 76% phosphorous removal).

2. Past MS4 Accomplishments and TMDLs

The 2013 MS4 Draft General Permit imposes Total Maximum Daily Limits (TMDL) on Horseshoe Pond through the *Horseshoe Pond Report by AECOM* for Phosphorus, based on samples taken from 1996-1999. Given that the Town of Merrimack has been working on the objectives outlined in the 2003 MS4 General Permit for 10 years, it would be fiscally prudent to obtain current data prior to requiring non-structural and structural measures to be put in place and have evaluated performance on the measures by the end of year 5 of the Permit, especially with the millions of dollars that could be required to meet the draft 2013 MS4 Draft General Permit requirements.

3. Limited Data Used to Determine Phosphorus TMDL

The limited data used for the TMDL developed by AECOM *entitled Horseshoe Pond Report Merrimack, NH, (January 2011)* relied on data collected from 1996 – 1999 (see Table 2.1 in the TMDL for Horseshoe Pond, Merrimack, NH 2011). In this table it is noted (bottom of table) that "Water quality statistics are calculated from 1996 – 1999 data". In Table 2-2 of the TMDL for Horseshoe Pond, Merrimack, NH 2011, it notes in the table and the body of text in Section 2.1 that the Pond summer water quality summary table utilizes data from 1996 - 1999. Current, extensive and seasonal Phosphorus testing should be crucial to establishing appropriate and accurate TMDL requirements. If there is current data, then that data should be part of the TMDL that was included in the 2013 MS4 Draft General Permit. If there is none then the TMDL process needs to start over with data collection. How legitimate are these chlorophyll tests and cyanobacteria observations that were performed over 13 to 14 years ago? What is the validity for the sampling techniques, sample holding times, quality control measures, analysis methods and chains of custody? Were they appropriate at the time of the tests and observations?

4. Limitations to the Phosphorus Analysis

In section 3.4 on page 3.6 of the HP TMDL it is noted that there is "reasonable accounting of P sources" but that there are "several limitations to the analysis". The limitations to the analysis include precipitation variability, spatial analysis limitations, total phosphorus coefficients that are regional estimates, total internal loading lack of data and restrictions to the model based on limited available data. Clearly, all of these factors place a great burden of doubt on the estimations of the final phosphorus analysis and the resultant TMDL. How can the EPA and the NHDES mandate that a set reduction in total phosphorus be achieved when there are very questionable limitations to the phosphorus analysis presented in the report and no hard phosphorus data?

5. Dissolved Oxygen (DO) Depletion and Total Phosphorus Reduction

It is noted in Section 2.6 of the 2013 MS4 Draft General Permit that "Reducing algal productivity through control of Total Phosphorus should also reduce hypolimnetic DO depletion although Horseshoe Pond is not currently listed as impaired with respect to DO. Why state that there is no issue with DO depletion in Horseshoe Pond but that the goal of Phosphorus reduction in to reduce DO depletion. This is implying a need and requirement for the Town that is beyond the scope of the *Horseshoe Pond TMDL Report byAECOM.*

6. Lack of Hard Data and Models to Establish TMDL Requirements
Instead of actual current data for establishing the TMDL requirement in the *Horseshoe Pond TMDL Report* it relies on several models to determine the epilimnion mean for the Pond. The model has been fed data from the 1996 – 1999 testing period. The models assume that the MS4 system in Merrimack is responsible for the impairment and that all of the loading is coming from the MS4 system. There is no concrete evidence that the MS4 system is causing the impairment. In Section 3.2 of the *Horseshoe Pond TMDL Report* it states that the "Annual areal loading of TP from the watershed is estimated to be 41.5 kg/yr which represents 90% of the total load to the Pond. Using an estimate and then developing requirements for the Town is wrong. Viewing the stormwater layer in the Town's GIS system shows four outfalls 'near' Horseshoe Pond. The distances from the end of the pipe to the Pond are 247', 131', 218' and 356' (running south to north). The stormwater runs through forested area before having a chance to reach the Pond.

7. No Loading Quantification for Establishing TMDL Requirements
Internal loads of TP and waterfowl numbers are not listed because there is reportedly no data available as noted in Section 3.2 of the *Horseshoe Pond TMDL Report*. In Section 3.4 it is stated that "Water quality data for Horseshoe Pond and its tributaries are limited, restricting calibration of the model" Also in Section 3.2 it is noted that "TP loading estimates from water fowl and internal loading could not be made due to the lack of data although the contributions from these sources as expected to be small relative to the watershed sources". This is another example of how the loading quantification through current sampling needs to be completed if this TMDL is to be accurate and appropriate.

8. Use of Several Models to Predict In-Pond Total Phosphorus Concentrations
In Table 3.4 of the *Horseshoe Pond TMDL Report* five different empirical equation models and a mass balance are used to predict in-Pond concentrations of TP. The results of this table show variations of results from 81 ug/l to as low as 17 ug/l. The mean of these results (38 ug/L) is then used to determine the final TMDL for the Pond. This is another example of how loading quantification through current sampling needs to be completed if this TMDL is to be accurate and appropriate. In addition to Phosphorus loading, the in Pond concentrations of mean and peak chlorophyll-a, bloom probability and transparency (Secchi Disk Transparency) are also predicted. In Section 4.1 the Report notes that the target in-Pond TP concentration of 12ug/l needs to be achieved to meet water quality standards. Actual current data needs to be the basis for the assumptions make in this TMDL, taking into account the seasons, various Pond layers, overturn, and loading sources (natural, water fowl, internal). Only then will this be a defensible TMDL. No town will be able to convince elected officials that a report, largely based on predictions and modeling is worth spending tax payers dollars on.

9. Waste Load Allocations for Phosphorus are Questionable
In Section 5.1 of the *Horseshoe Pond TMDL Report* it is noted that "Waste load allocations identify the portion of the loading capacity that is allocated to point sources (such as MS4s) and load allocations identify the portion of the loading capacity that is allocated to non-point

sources (such as fields) and natural background" It also notes that " in order to accurately develop allocations for these two categories of sources it is essential to have not only a complete accounting of each point source, but also a delineation of the associated drainage area and an estimate of the existing loading." It goes on to say that the real challenge in splitting out point sources from non-point sources resides with the available data." There is limited data used in this report for determining loading for point and non-point sources. The waste load allocation is being estimated along with the load allocation. It would seem that the report should have generated more current, appropriate and extensive sampling data (Phosphorus & Chlorophyll a) before the waste load and load allocations were fully developed. Section 5.1 also notes that "because sufficient information at the parcel level was simply not available in this watershed, it is infeasible to draw a distinction between stormwater from existing or future regulated point sources, non regulated point sources and non point sources". This is used as the reason in the Permit as to why there is a single waste load allocation figure (expressed in a percent reduction) which has been set for the entire watershed.

10. Meeting Phosphorus Target of 12ug/L

Based on the Phosphorus target of 12 ug/L it may be impossible and will be very expensive for the Town of Merrimack to meet the targeted reduction of Phosphorus for two reasons as noted below:

a. The percent reduction that is expected for TP is extremely difficult to achieve based on current literature as cited in the Report. The Horseshoe Pond TMDL Report cautions in Section 6.2 that "A reduction of 76% (from 38ug/L to 12ug/L) will be difficult to achieve without very aggressive action as it is greater that the maximum estimated achievable reduction of approximately 60 – 70 % (Center for Watershed Protection)." In Section 7.0 it also states that "Since the watershed load reduction required for Horseshoe Pond is 76%, the goal will be difficult to obtain."

b. Also, the topography (steep wooded inclines to the Pond) and the lack of open space (due to concentrated residences/backyards) at Horseshoe Pond will greatly limit the options available to the Town for effective and reasonable best management practices (structural BMPs). The Report supports this conclusion as noted in Section 7.0 when it states that "Reductions greater than 70% are possible, but consideration of costs, space requirements, and legal ramifications (e.g. land acquisitions, jurisdictional issues), limit attainment of such reductions.

There needs to be a incremental approach to reduction of Phosphorus, if needed, that includes extensive sampling and a process of logical steps utilizing first non-structural BMPs and then structural BMPs (if necessary) with evaluations of progress made in meeting water quality standards at various steps in the process.

IV. TMDL REQUIREMENTS - BACTERIA

1. Ambiguity on Sampling Sites

In Appendix F of the 2013 MS4 Draft General Permit Section 3 dealing with TMDLs states that "The WLA of MS4 discharges is set at that relevant water quality standard, although compliance with the TMDL will be based on the ambient water quality and not water quality

at the point of discharge (i.e. end of pipe)." This statement is in contradiction to the end of pipe reductions that are required as part of the TMDL and listed on Table F-1 MS4s Subject to Statewide Bacteria TMDL

2. Watershed Loadings Unfairly Applied in the Bacteria TMDL for Merrimack
The TMDL for Merrimack expects that certain percentages of bacterial reduction are now the responsibility of the Town. Merrimack is responsible for the Merrimack River. This is wrong in that on the other side of the Merrimack River is the Town of Litchfield. Litchfield is not covered under the 2013 MS4 Draft General Permit even though they clearly must have some point source and especially some non-point source discharge of bacteria into the Merrimack River. The Town of Merrimack is given the whole burden of reducing the bacteria loading to the River while other communities have no responsibility. In addition, bacteria loading upstream of Merrimack from some other communities such as Manchester (a CSO community and Concord (not covered by the 2013 MS4 Draft General Permit) may be the most significant contributors to the impairment of the River in Merrimack. Why should Merrimack be penalized for the loadings from other communities and non-point sources? It would be most prudent to have the State be the lead agency to correct deficiencies in State waters as it is inherently unfair to select which communities will bear the cost and which will not. Choosing the current method because of a defined tax source (property tax) instead of working through the State Legislature to secure appropriate funding is the wrong way to achieve clean water (which we all want) as it will lead to inefficient use of scarce funds. The State working at a more global watershed level would allow for efficiencies and economies of scale that cannot be obtained at the local level.

3. No Evidence that the MS4 Communities Need to Control Bacteria
There is no hard factual data or evidence that the MS4 control is necessary to achieve compliance with the applicable water quality standard or that the allocation in the TMDL when correctly applied (see previous note regarding Litchfield) will result in compliance with Clean Water Standards. We would like to see how this TMDL process was determined so that a discharge causes or contributes an exceedance of the bacteria standards. Before expensive controls are forced on the Town a thorough review of the data used to produce the TMDL is accomplished and that there is no uncertainty that the MS4 system in Merrimack is to blame for any exceedance in ambient river quality.

4. Discharge Water Quality Vs. Ambient Water Body Quality
Section 3. of Appendix F states that "*The WLA for MS4 discharges is set at the relevant water quality standard, although compliance with the TMDL will be based on ambient water quality and not water quality at the point of discharge (i.e., end of pipe").* The general permit that is to be obtained by the municipalities is a Stormwater **Discharge** From MS4's permit. It is unreasonable given the 'Maximum Extent Practicable' standard to expect the municipality to bear the entire financial burden for cleaning State waters without proving that the end of pipe discharge is the major contributor to the impairment.

5. Street Sweeping
Section 3. ii. of Appendix F requires the sweeping of streets "*at least two times per year*". Currently, the Town of Merrimack sweeps every public street, lot, and sidewalk each spring

as soon as the winter season allows at a current cost of more than $50,000. During that operation, we pick up the residual sand that was applied during the winter season. Most of Merrimack's streets are uncurbed. A second sweeping of the streets would not be of practical or fiscal value for the Town as very little debris accumulates along the road edges during non-winter seasons.

V. ATTORNEY'S REVIEW AND COMMENTS

As a participant in the efforts of 20 other New Hampshire communities that are subject to the 2013 MS4 General Permit and have secured the legal services of Sheehan Phinney Bass + Green, PA, of Two Eagle Square, Concord, NH, we would like to directly reference, on our behalf, their submittal of comments to the EPA and the NHDES regarding the 2013 MS4 Draft General Permit.

VI. NEW DRAFT 2013 MS4 GENERAL PERMIT

Due to the many comments, questions, issues and concerns identified and noted in this letter about the 2013 MS4 Draft General Permit from the Town of Merrimack and also in the submittal of comments by Sheehan Bass + Green and other NH communities, we are respectfully requesting that the EPA and NHDES withdraw the 2013 MS4 Draft General Permit and reissue a new MS4 Draft General Permit for our review and comment as soon as possible.

Sincerely,

Richard Seymour, Public Works Director

Kyle Fox, Deputy Director/Town Engineer

cc: Eileen Cabanel, Town Manager
Merrimack Town Council

availability of the church parking lot has prohibited that. Consideration was given to moving the event to the High School; however, as there is an event planned there the night before and because it is believed the success of the event has been linked to the ability to set up the night before, the location was not changed. Chairman Rothhaus suggested splitting the events up may draw an additional crowd.

Councilor Koenig expressed his belief the intent is to raise donations from sponsors to cover the cost of the evening events. Mr. McCray stated that to be the case, and stressed there will be a need for him to come back before the Council to discuss levels of sponsorship, type of advertising, etc.

MOTION made by Councilor Boyd and seconded by Councilor Mahon that the Town Council grant permission conceptually to the Friends of the Merrimack Fall Festival Business Expo. to begin planning and preparing for the September 28th event, and furthermore, that the Council extend its best wishes and willingness to provide assistance to David McCray and David Shaw as they undertake efforts to get the event going. MOTION CARRIED 7/0/0

2. **Merrimack Crimeline Donation Acceptance for Police K-9 Unit**
   Submitted by Police Captain Peter Albert
   To consider the acceptance of a donation in the amount of $1,516.00 from the 5th Annual Crimeline Magic Show Fundraiser which was held on April 13. These funds were raised to specifically benefit the Merrimack Police Department's K-9 unit, pursuant to RSA 31:95-b and Charter Article 8-15.

Captain Peter Albert, Merrimack Police Department, stated the department is requesting the Council approve the donation of $1,516 from Merrimack Crimeline to the K-9 program to support Gunny's activities. He remarked the Crimeline is a wonderful volunteer civic organization that fully supports the Police Department and believes in giving back to the community. This is the 5th year they have run the Magic Show. After expenses were paid the remaining balance was $1,516, which they wish to contribute towards Gunny's upkeep.

MOTION made by Councilor Yakuboff and seconded by Councilor Boyd to accept a donation in the amount of $1,516.00 from the Merrimack Crimeline donated to the Merrimack Police Department's K-9 unit.

ON THE QUESTION

Vice Chairman Yakuboff remarked and Captain Albert agreed, Gunny has been very useful over the years. Vice Chairman Yakuboff extended his gratitude to the Merrimack Crimeline.
MOTION CARRIED 7/0/0

3. **MS4 Review and MS4 Group Participation Agreement**
   Submitted by Public Works Director Rick Seymour
   PWD would like to inform the Council about the significant changes and additions to the MS4 Stormwater Permit and the financial impacts. Also, PWD would like Council to consider approving the participation of the Town in the NH MS4 Permit Communities Group and the use of Town funds for legal assistance.

Town Manager Cabanel stressed the importance of the Council taking action on what is likely one of the most important topics to come before it. She stated the new agreement being proposed has the

potential to result in enormous costs for the Town over the next 6 months. She explained, the Town has an MS4 Agreement with the Environmental Protection Agency (EPA), which relates to the Clean Water Act. The Town is currently under the 2003 agreement, which is basically for the prevention of groundwater contamination. The 2003 stormwater plan was intended to last five years.

Ten years has gone by, and the EPA is requiring information from the New Hampshire Department of Environmental Services (NH DES) relative to guidelines on how stringent NH should be as it relates to the Clean Water Act as well as data, which could be used in determining the requirements for the State.

Town Manager Cabanel stated there is a commented period during which the Town has the opportunity to provide comments on the MS4 Agreement for 2013. Once that time period comes to an end there will be no further opportunity to comment, and whatever the agreement requires to be done the Town will be required to do within the time period established.

The various communities involved collectively requested an extension to the comment period, which was granted. The comment period comes to a close on August 15th. A draft response to the Agreement has been put together. She remarked none of the activities being proposed imply the Town is not interested in clean water, it is simply that there needs to be scientific and timely data utilized and a decent period of time allowed for compliance. As an example of how Merrimack was called out in the new agreement; they looked at Horseshoe Pond and said you need to clean that up for Phosphorous. To do so would result in a cost of about $2.5 million. They are basing their requirements on data collected 15 years ago without having ever tested for Phosphorous

The Council recessed at 8:28 p.m.
The Council reconvened at 8:33 p.m.

Kyle Fox, Deputy Director, Department of Public Works, remarked this is a big topic for Merrimack and many towns in New Hampshire. There are 60 municipalities in New Hampshire that have been identified for this program, which is a costly prospect. The Stormwater Program was derived from the Clean Water Act (Federal regulation). In 1990, the EPA was authorized to regulate point sources to waters of the United States. The way they did that is through their National Pollutant Discharge Elimination System (NPDES) permit program. Phase I of the NPDES program began in 1990. The communities included in that program were those that had populations over 100,000.

Phase II is where most of the New Hampshire municipalities came in. Program requirements for inclusion are being defined as an urbanized area, e.g., population of 1,000 people per sq. mile, or areas designated by the permitting authority (EPA). When asked, he explained the MS4 Program is the Municipal Separate Storm Sewer System. What the permit regulates is all stormwater discharge, e.g., catch basins leading to stormwater pipes, which leads to waters of the United States, which include lakes, ponds, rivers, streams, etc. This program is designed to give blanket authority for all of our discharge so we don't have to have 1,000 permits.

The first permits under Phase II of the program were issued in 2003. What that involved was the requirement for the Town Manager to file a Notice of Intent, but the Town Manager at that time, through the Selectmen's authority, filed a Notice of Intent to Discharge stormwater through the EPA. The first permit required those permitted to reduce the discharge of pollutants to the Maximum Extent Practical (MEP). The goals of the program are to protect water quality and satisfy the appropriate water quality requirements of the Clean Water Act. Councilor Koenig questioned who the MEP was

measured by. Deputy Director Fox responded during the Notice of Intent process, the Town sent a document to the EPA outlining what would be done in the program, e.g., what the goals were and what would be achieved in each of the five years of the program. The EPA accepted that, and that is what the Town has been working under.

Deputy Director Fox stated, under the first permit there were 6 minimum control measures the EPA wished the Town to focus on: 1) public education and outreach; accomplished through brochures, classroom education, etc., 2) public participation and outreach; goals were volunteer programs such as the stencils on the catch basins, 3) Illicit Discharge Detection & Elimination (IDDE); goal was to identify where stormwater system is, where it goes to, and be able to locate illicit discharges (not normal from stormwater). A great deal of money was expended in 2003 and 2004 on this part of the program specifically for GIS (have a storm sewer layer that is about 99% complete at this point). Another part of that was the visual inspection of every outfall (photographed), which was largely a consultant effort. 4) Construction Site Runoff Control, 5) Post Construction Runoff Control; where those come into play is with the Ordinance to amend Chapter 4:12 of the Town Code to include regulations on stormwater discharges during construction and site control post-construction. That programming is working pretty well. The State and Federal regulations for construction control kick in at 1 acre. The decision was made, as a Town, to set the limit at 20,000 sq. ft.

Councilor Boyd questioned the number of discharge points in Town and what has been the level of illegal discharge from either of those points. Deputy Director Fox stated there to be over 500 discharge points and noted in the past two years there have been 3 incidents where they have received calls about illicit discharges, which have been addressed. Through the inspection program they have not found any. The sixth control measure is Pollution Prevention/Good Housekeeping, which is an internal training program. As part of the 2003 MS4 Permit requirements, he prepares an annual report of the stormwater activities under those 6 control measures each year by May 1st and forwards it to the EPA.

Town Manager Cabanel noted the 2003 requirements were not particularly onerous, the Town was able to meet them, and continues to operate under the 2003 permit. Deputy Director Fox remarked in 2008 the EPA issued a draft permit to replace the 2003 MS4 permit. It was a lot more onerous than the 2003 permit, a great deal of comment was received, and the EPA never issued the permit. In February, the EPA issued a new draft permit. In it, they roll in another 13 municipalities. All of the goals identified within the permit have to be met within 5 years. The program itself in format is the same; 6 control measures. However, each include a great deal more responsibilities and duties to be accomplished.

James Taylor, Assistant Director, Wastetwater, noted the requirement to achieve compliance within a 5-year period is very unusual. New Hampshire will have one of the strictest stormwater permits in the country if approved in the form seen now as a draft. When asked why, Assistant Director Taylor responded the State does not allow the DES to issue compliance schedules. It says you can have permits for periods of five years. The five-year permit constrains the Town to complete everything within the five-year period. At present, there is pushback that the State, through the legislative process, allow compliance schedules to be issued from the DES and also extend the periods of time in which the Town would have to comply.

Chairman Rothhaus commented it is the State that is causing the issue not the EPA. He remarked, if that is the case he wants to understand what the Governor has heard about this. He stated the Town does not fit within the criteria of an urbanized area and some designating authority with DES in the

State has made life more difficult. He stated the Clean Water Act came out in 1990, the first permit came out in 2003, Article 28-a came about in 1978, which is long before this was thought of so it is absolutely an unfunded mandate especially where the EPA isn't requiring these things of the Town the State is. Councilor Boyd questioned whether towns abutting the Souhegan River Watershed will be subject to the same type of rules the Town is being asked to abide by and if so at what level. Deputy Director Kyle Fox noted one of the towns that has been rolled into the 2013 permit is Lyndeborough, because they are closer to the Souhegan Watershed. They have a population of 54 people per sq. mile.

The draft permit was issued in February with an April 15th deadline to submit comments. He and Director Seymour prepared comments. The deadline was extended to May 15th and again recently until August 15th. He reiterated they were prepared to send some comments in, the unfunded mandate being one of them. Program inclusion is another; many towns have taken note the City of Concord is not included in the program. Councilor Boyd clarified his point, the financial burden to administer the program will fall upon the Town of Merrimack because of its geographic location, not necessarily other communities that are upstream of the Souhegan, but because their stormwater flows into the Souhegan eventually, the Town will be responsible for monitoring illicit discharge that may emanate from Mason, Lyndeborough, Wilton, etc. Deputy Director Fox stated his belief Councilor Boyd's understanding is correct.

Councilor Dwyer disagreed. He stated it is not about the Souhegan. The catchword is stormwater; it is rain. He remarked you could be living in a town in New Hampshire without any water in it and the need would still exist to file permits. Councilor Boyd stated the point to be the discharge collection point is in Merrimack.

Deputy Director Fox stated one of the confusing things for New Hampshire communities is that New Hampshire is a non-delegated state. Many states have their own stormwater programs; however, New Hampshire does not so it falls under EPA control. However, the NH DES gives the EPA the pollutant limits that are required. Town Manager Cabanel noted the data also is generated by the NH DES.

Deputy Director Fox stated the 6 control measures are the same in title; however, are much more extensive and much more expensive. He stated the most onerous part of the 2013 draft permit to be the Total Mass Daily Load (TMDL) limits. NH DES has determined pollutant loading in a number of water bodies throughout the State based on very old testing and sometimes with testing that remains to be verified. They perform calculations and determine loading limits that are allowed out of the stormwater pipes. They have placed a large restriction on the stormwater pipes to try and bring the entire water body under the pollutant limits they want to see. The program does not necessarily regulate rain water, it is just the water that comes through our pipes; however NH DES and the EPA are using it as an opportunity to correct deficiencies in water bodies as a whole.

Councilor Dwyer stated stormwater discharge is rain. Deputy Director Fox responded rain itself is fine, it is the pollutants it collects along the way they are trying to address. The water bodies in Merrimack that have been identified as having loading issues are: Horseshoe Pond and Baboosic Lake; Phosphorous limits and Naticook Lake/Wasserman Park Beach, Merrimack River, Souhegan River, and Pennichuck Brook; bacteria limits. The data used to formulate the limits for Horseshoe Pond was collected about 14 years ago. The goal of the permit would be 76% reduction in Phosphorous. Using a spreadsheet the City of Nashua developed, which uses watershed size, they estimate a cost of approximately $2.5 million to address Horseshoe Pond alone. Baboosic Lake also has a Phosphorous limit (in permit Amherst listed as the lead agency) and a 44% reduction is sought.

When asked how the limits were formulated, Director Seymour remarked there are a lot of times assumptions are made based on national formulas/data. He remarked when Manchester looked at their loadings in certain water bodies they sat down with the EPA and tried to determine how it was decided they had a particular amount of Phosphorous and were told it was based on the number of acres of drainage that went to the pond and what would be expected for Phosphorous addition to that pond over time. Therefore, based on that data, they would calculate how high the Phosphorous level was and the percentage of reduction that needed to be taken into account for reducing the pollutant levels.

When they met as a group, one of the things looked at was the way the total maximum daily limits were calculated. He stated it was difficult to identify even for the DES who came back with all of the flow through diagrams that showed how the numbers were created. He commented the figures used for pounds and loadings are old. It is more than likely the data used for a lot of the TMDLs throughout the State are based on very old data.

Bacteria TMDLs for the water bodies listed vary in reduction limits from 45-87%. Some of the things the Town would be required to do include increased street sweeping in those areas, public education, and full IDDE implementation. He noted one of the differences between the current permit and the proposed permit provides for more leniency in determining where the trouble catch basins are located. Being within the watershed of these water bodies automatically puts them in the dangerous category, which requires full testing (dry and wet weather), which is costly. Councilor Koenig requested clarification they are not suggesting any of the levels are a result of failed septic systems, etc. Deputy Director Fox stated the permit does not regulate septic systems only stormwater discharges. Councilor Koenig questioned whether the belief is Phosphorous is coming off the streets. Deputy Director Fox remarked Horseshoe Pond has a lot of nice lawns in the area where fertilizers are likely used, and the dilemma is how do we, through stormwater discharge (have 3 that go towards Horseshoe Pond) reduce 76% of the Phosphorous in that water body. He suggested it may not be possible.

Town Manager Cabanel stated addressing Horseshoe Pond alone will result in a cost of approximately $2.5 million. With Baboosic Lake Amherst is lead; however, the Town will likely be pulled in. There is no estimated cost known. She stated they have not been able to cost out the expense of addressing bacteria levels. She suggested it will be several million dollars of expense for projects that have to be completed in a five-year timeframe. Deputy Director Fox remarked they have been able to address the requirements of the 2003 permit through the use of Town staff and interns. Under the proposed permit it would be impossible to keep up with the requirements with staff alone. There would be the need to hire consultants. He stated his belief the 6 control measures alone will cost tens to hundreds of thousands per year and the TMDL limit issues will cost in the millions.

Director Seymour informed the Council in reaction to what is occurring with the MS4 draft permit, a lot of communities have gotten together (around 41 communities in attendance for the initial meeting). He stated one of the requests of the Council is to authorize the Town to become part of the MS4 Group and to participate in the activities of that group. Approximately 500,000 residents are represented by the towns that have committee to participate to date.

The MS4 Group is working with Sheehan, Phinney, Bass and Green out of Manchester, a firm heavily into the environment process and one that has been working with the seacoast on their permitting. They also hired a lawyer from Washington who has dealt with a lot of EPA cases. The cost of legal services would be split amongst the MS4 Group based on population. Initially the desire is to use their

services to provide MS4 permit comments. He remarked, although it sounds innocuous and perhaps not a very high quality task, it is a very complicated and detailed task. The MS4 Group has a core group that has been meeting with NH DES, has stated the permit is unattainable and DES will have to partner with the Group to change the way it will evolve as without that change the communities are likely to appeal and perhaps bring suit against the EPA and the State.

There will be a cost of approximately $75,000 to get the comments together. He noted the MS4 draft permit will require legal review. Although the Town could probably do it to some degree, there are a lot of cases throughout the country where some of the MS4 requirements in other districts have been overturned through legal efforts. When the comments are forwarded they will include comments generated by Director Seymour and Deputy Director Fox as well as an additional set provide on behalf of all of the towns that are part of the MS4 Group. Merrimack's portion of that expense would be $5,000. The mechanism to manage the MS4 Group and to work with the lawyers and any other consultants will be a subcommittee of the New Hampshire Public Works Association, which is expected to be formed in the next few days. That subcommittee will work with the towns to coordinate the efforts to get consultants and any experts we need together to work on the MS4 permit.

He remarked the core group has not made a lot of progress with NH DES; however, did achieve the extension of the deadline, which provides the necessary time to comment properly, to dig into the TMDLs, and to allow a legal review. One of the things brought to the attention of NH DES is the five-year timeframe dilemma associated with the permit. They were encouraged and have agreed to begin the legislative process to create compliance schedules and that they be 20 years long. Director Seymour stated one of the items key to the process is the validation of data. He remarked Horseshoe is a prime example of 14-year-old data being used in some huge formula to calculate out what the loading is for the Town to determine the percentage of reduction that is required to occur. It is the belief of the Group the first five years of a compliance schedule should involve a sampling schedule extensive enough to ensure data relative to weather conditions, seasonal conditions, depth, and area sampling throughout so that the data is sensible. If the pond were determined impaired at that point there would be 15 years remaining to determine how to address the issue.

Director Seymour noted a lot of the things that have been done as a result of the 2003 permit have already gone into effect, e.g., extra street sweeping, catch basin cleaning, the creation of an Ordinance to control stormwater, etc. They believe each of those things have added to reducing the loads to all of the water bodies in Town and they want credit for that. The only way to get credit for that is to test. They feel it is important to test up front as part of the first five years of the compliance schedule.

It is believed legislation will be put in place to allow for a 20-year compliance schedule and that the EPA will not balk at it as it is already happening in other states. The MS4 Group would select the consultants. A Project Coordinator would be selected to coordinate activities for the Group. The plan of action consists of four steps: 1) send comments to the EPA by August 15th, 2) EPA and State will review the comments, 3) if not successful, the Group would go to the Environmental Appeals Board, and 4) appeal through the First District Court. He remarked legal support at this point in time is critical as that same group may be needed to work on behalf of the towns to draft any appeals.

Town Manager Cabanel summarized Phase I has a cost factor of $75,000 to be split amongst all participants (based on population). What they are trying to do is to respond, before the August 15th deadline, in a scientific and legal way because, as individual communities, we don't have the staff, scientists, etc. A response will be written on behalf of all of the participating towns/cities by legal

counsel, and the Town will forward its own comments regarding our specific water bodies that have been called out.

Chairman Rothhaus stated his belief this as an unfunded mandate and that the State is causing this difficulty. When not required by the Federal Government to be an urbanized area, our own state has mandated that we are. He remarked that amendment (Article 28-a) is ignored constantly, which is a failure of ours. He stated his opinion the $5,000 expenditure is more of an insurance policy and he is not opposed to hiring an attorney to prepare the comments. He stated his desire for the state to step up to the plate to cover the things that the Town does not have to do for the Federal Government but has to do because of NH DES. He stated he would like the Governor to be made aware of the issue. Town Manager Cabanel stated she has personally spoken to the Commissioner at NH DES. She is not clear why no one has contacted the Governor.

Councilor Dwyer stated his opposition to allocating $5,000 towards this endeavor and the Town's participation in the Group. He suggested, the moment the first check is written, the lawyers will turn the situation into a money machine. He stated the Group is in bed with the lobbying effort with the EPA; they go to Washington and meet with the bureaucrats. He stated this to be our worst nightmare. He remarked with all due respect to the staff putting hours and hours into this work, he begged the Council to stop making them do this work. He suggested the Council make them sue the Town for non-compliance as he believes the case would continue for decades.

He stated his comment would be why don't you make us clean Horseshoe Pond for $2.5 million. He spoke of the newspaper article that stated in order for Manchester to be compliant they would have to raise $600 million in five years' time. He suggested it would take $6-8 million for Merrimack to comply. He remarked it is craziness and the moment you start trying to be professional and courteous and pay attorneys to be lobbyists to fulfill their obligations you are caught in it and will always be bound to fighting the madness instead of rebelling against the bureaucratic madness that is encroaching on our way of life. He suggested the moment we decide to participate we make their effort legitimate. Vice Chairman Yakuboff stated his agreement with the comments made by Councilor Dwyer; however, added his belief what you spend at the onset is vital. He noted there is no commitment being made beyond that initial investment.

MOTION by Councilor Yakuboff and seconded by Councilor Mahon that the Council authorize the Town of
Merrimack to join the MS4 Group at a cost of $5,500 for Phase I of the legal effort and authorize the Town Manager to execute any documents required to reflect the participation in the MS4 Group

ON THE QUESTION

Vice Chairman Yakuboff agreed there is a need to stop the madness; however, we cannot all go to jail. He stated his belief you have to use a little bit of money to start the fight by joining with the other towns. He stated the level of financial commitment to be minor when compared to the potential financial liability of the Town, and noted the opportunity exists to pull away from the Group and its efforts at any time. If, when faced with a second phase, he confidently believes it is not important enough to move forward with the Group, he will vote against it.

Councilor Dwyer stated his agreement with most of the remarks made, but added what makes him hesitant is NH DES has not been our ally in this process. They recognize that 14 years ago a college student doing his thesis was the one who tested Horseshoe Pond. They already know all of the data and can't even replicate it themselves right now. They know what they have is garbage, and yet they are still making you do it. He stated that is the madness part when our own state government knows the system is flawed, knows the data is flawed, and yet they continue to push the buttons for you to do it. Vice Chairman Yakuboff stated it is an unfunded mandate built on a foundation of sand because of the erroneous data, but he would rather spend $5,500 than $8 million with the opportunity of pulling out after the initial investment.
Councilor Boyd questioned whether it was fair to assume the data the Town has been collecting, as part of the 2003 permit, does not meet the methodology they need. Deputy Seymour stated water sampling was not done as part of the 2003 permit. They had no idea these TMDLs were coming down the road. If they had been aware of it they would have questioned it. The first time they saw the TMDL for Horseshoe Pond they only had two months to respond. The Town does not have data. Data has to be collected appropriately with QC/QA and what they call a QWAP, which is a process you have to put together explaining how you will sample and get the numbers. They want to go back to the EPA and say we both should acknowledge that those numbers are not good and arrange for the setup of a sampling schedule, etc. Councilor Boyd stated his opinion that work should not have to be done. He remarked if they are going to set the mandate and establish a standard, they should be responsible for proper testing, it should not be done at a cost to the taxpayers. He stated he agrees with a lot of what Councilor Dwyer's stated, but he also believes the Town needs to have a voice because the insanity has to stop.

Councilor Harrington suggested not responding is abdicating giving our opinion. Our non-response is giving them permission to continue with their intentions. Councilor Dwyer suggested responding in a letter doesn't mean you have to write a $5,000 check. Councilor Harrington stated a letter is not what she is understanding the response to be; it is looking at past practice in other states that have been successful in such an endeavor, understanding the methods they used to fight the issue, etc. She stated her opinion participation is providing an opportunity and getting the experts to act on our behalf.

Councilor Dwyer stated his fear with that approach is it still gives them the end result that you will spend X to buy the pipes and divert the rain from heaven. That is the EPA's end game that every municipal government across America will spend millions to collect the rain and do what they tell them to do. Councilor Harrington stated her belief, right now, the best effort we have is to give it a shot at this stage.

Councilor Koenig stated his agreement with the comments made by Councilor Dwyer. He remarked he believes it to be a sad state of affairs. He is unclear on who the MS4 Group is or who is controlling it. He sees Manchester as the elephant in the room and wonders how Merrimack will get anything out of it even for $5,000. He stated a concern the Town would be pitching in with a law firm he is not familiar with, and does not understand why the Town cannot provide comment based on what has happened in Merrimack, especially since that is going to be done on top of the efforts of the Group. He suggested it would become very difficult down the road to decide to step back and not spend any more money after having made an initial investment.

He stated his belief it ought to be made as clear as possible that what we have is a bad situation and respond in that fashion. It may not carry the same impact, but would tell them where we are coming from as a town. He added most times he would say go ahead, $5,000 is not enough money to worry

about, but he is beginning to become more and more convinced by Councilor Dwyer that once you make a financial investment you will continue to throw into that same bad pot, and he is not prepared to support doing that right now.

Vice Chairman Yakuboff questioned how a cost of $1 million/year would affect the tax rate. Director Micali stated the increase to be about $.33/per thousand. Councilor Boyd questioned whether funds are available to cover the cost. Town Manager Cabanel responded the funds are available (due to savings in the legal budget). She stated not only does the Town not have the expertise to site legal precedence, but for them to hear us they have to hear from a person they have heard from before who has been successful in cases with the EPA. She reiterated if we don't get involved now that opportunity will be gone, the regulations will be imposed on the Town, and then the lawsuits will begin.

Councilor Boyd questioned whether staff has spoken with Attorney Upton regarding this matter. Town Manager Cabanel responded she has spoken with Attorney Upton. Councilor Boyd questioned whether Attorney Upton is in agreement it is in the Town's best interest to synergize with the MS4 Group. Town Manager Cabanel reiterated what is being discussed is the response that is required to be given. She remarked she has met with the MS4 Group, which includes the DPW Directors for Manchester, Dover, Portsmouth, etc., and they don't feel that they have the expertise to respond adequately. Attorney Upton is fully aware of this and is supportive of the idea of this particular component. She remarked, once that commitment is made the response will be clear, scientific, consistent between a group of people who represent a population of half a million, and the answers will be the same with the exception of calling out individual issues. Once that response is provided, the Town is in the game. She remarked those cities/towns that choose not to participate cannot ride on our coattails. Those not participating in this effort could have the regulations imposed upon them.

Councilor Mahon suggested a response prepared by the Town will not be persuasive. Councilor Dwyer commented the thought process is that they will read our response and change their minds. He suggested again that the Town allow them to sue and go through the courts. He questioned how the Town could be made to comply.

Councilor Mahon stated the Town would not prevail on Article 28-a; this isn't a State program it is following a Federal mandate. Chairman Rothhaus stated his disagreement. Councilor Mahon re-stated it is following a Federal mandate and is not a State program. Chairman Rothhaus stated he would request Attorney Upton conduct the necessary research and make the Council aware of what the situation is, as he is of the belief it exceeds what the EPA has wanted, which to him makes it an unfunded mandate because his state has told a lower level of government what they had to do without funding it. Councilor Mahon responded, perhaps on that basis he might be correct. Councilor Mahon questioned why the State is delegated when the other states around it are not.

Director Seymour responded the State was given a choice years ago and decided to allow the EPA to be the control authority. New Hampshire chose not to because if they took over the activities of the EPA in full they would have to increase staff and take on that cost. Although there is funding that carries over from the EPA to the states if they run the environmental programs with the EPA; however, they likely felt it was insufficient at the time.

MOTION CARRIED 4/3/0

Councilors Dwyer, Koenig and Rothhaus voted in Opposition

Chairman Rothhaus commented he would like to pursue the other side of the issue. He stated his surprise it is NH DES that has created the most conflict. Councilor Mahon remarked it is the State Legislature that created the conflict. Chairman Rothhaus clarified the State Legislature delegates regulatory authority to the NH DES. Regardless, it is his own State that has caused the conflict, and he would like to know what can be done to pursue the issue. Although he believes it would be an expensive undertaking, he would like to understand what the cost would be. He commented this issue is so easily seen as an unfunded mandate, if the Town were not to prevail on that basis, then Article 28-a is a joke.

Chairman Rothhaus requested the Town Manager seek a legal opinion.

Director Micali questioned whether the $5,500 was a not to exceed amount. Vice Chairman Yakuboff stated his intent to have been approximately $5,500. Councilor Boyd noted the list provided by Director Seymour identified the Town's portion as $4,919.86. It was noted that number could change as more towns/cities join.

4. Cross Country Sewer Line Easement Clearing Project
Submitted by Assistant Director of Public Works/Wastetwater James E. Taylor
The Town Council to be presented with the details of the upcoming easement clearing project.

James E. Taylor, Assistant Director, Wastewater, provided the Council with a PowerPoint presentation on the Cross Country Sewer Line Easement Clearing Project. When the Town's EPA Discharge Permit was reissued in 2005 it included requirements to maintain and identify any issues on the sewer system. The Program was known as CMOM (Capacity, Management, Operations, and Maintenance). Goals of the program are to provide uninterrupted, reliable, cost-effective services to residents, businesses, commercial enterprises, and industry and to lay out a logical cost-effective roadmap so that the Town knows where we are today and where we need to go in the future. The intent is to meet permit requirements, which is to prevent sanitary sewer overflows (SSOs). The EPA issues the Town a permit to discharge from the Wastewater Treatment Facility, but it also includes many operational controls. The permit requires the entity permitted to identify and maintain any issues in the entire collection system. To date the accessible portion, which is typically in the streets, has been identified (videoed), and maintained. Assistant Director Taylor provided slides depicting various enforcement actions taken by the EPA against cities/towns not in compliance.

The sewer/collection system consists of approximately 90 miles of sewer lines ranging in size from 8" to 48" pipes. There are about 1,500 manhole structures and 6 pumping stations. About 11 miles or 12% are located on private property and run through private property to the main interceptor, which runs along the railroad tracks. Councilor Koenig questioned, and was informed there are Town easements in place that provide for access.

In Phase I of the Recovery Program a surveyor was hired to survey the easements and ensure the appropriate Deeds were in place on the properties in question. A typical easement is about 20' wide and allows access for equipment. Phase II involves clearing, as most of the easements have become overgrown. Phase III will be to video the lines to assess the condition.

A proposal is out to bid for the hiring of a qualified land clearing company. It is anticipated the signing of a contract will take place at the end of June (3-year project). Funding for the project was

Proposed New Hampshire Small MS4 General Permit – Comments of the New Hampshire Stormwater Coalition

The New Hampshire Stormwater Coalition ("the Coalition") represents 20 small municipal separate storm sewer systems (MS4s) communities throughout the state of New Hampshire who are directly affected by the proposed Small MS4 General Permit ("Draft Permit"). For the reasons stated below, the Coalition objects to this permit action as technically and legally flawed and requests that various provisions of the Draft Permit either be withdrawn or modified, consistent with these comments.

Reservation of Rights for Supplemental Submission

A number of requirements contained in the proposed permit are confusing and require further clarification to allow for the submission of comments. Coalition members have included questions regarding the draft permit requirements on many issues. With respect to these general comments, the Coalition and its individual members require clarification on the following questions:

- Whether Response Plans (Draft Permit Part 2.2.2) submitted by permittees will be subject to the public comment process;
- Whether once applicable TMDLs are updated, the requirements of the new TMDL will replace those found in Appendix F of the Draft Permit;
- Whether a reasonable potential analysis will be conducted to show more restrictive limits are necessary; and,
- The extent to which the state's Stormwater Manual establishes minimum requirements or the presumed approaches that are needed to ensure compliance with this draft permit.

When the Coalition and/or its individual members receives EPA's response to these matters (and other questions raised in the individual comment letters), the Coalition intends to supplement these preliminary comments if necessary.

Procedural Issues and Objections

1. The Draft Permit Requirements Should Not Be More Stringent than the Existing Permit Requirements Pending EPA's Adoption of Revised Small MS4 Program Regulations

Since the issuance of the New Hampshire small MS4 general permit in 2003 ("2003 General Permit"), there has been no change in federal regulations applicable to small MS4s. EPA's regulation at 40 C.F.R. § 122.37 states that "EPA will evaluate the small MS4 regulations at §§

122.32 through 122.36 and § 123.36 of this chapter after December 10, 2012 and make any necessary revisions." Furthermore, EPA's regulations specifically provide:

> EPA strongly recommends that until evaluation of the storm water program in § 122.37, no additional requirements beyond the minimum control measures be imposed on regulated small MS4s without the agreement of the operator of the affected small MS4, except where an approved TMDL or equivalent analysis provides adequate information to develop more specific measures to protect water quality.

40 C.F.R. § 122.34(e). It is highly unusual for EPA to promulgate a regulation codifying that additional requirements should not be imposed,[1] and, as such, substantial weight must be provided to such position. As explained by EPA, "[t]his approach addresses the concern for protecting water resources from the threat posed by storm water discharges with the important qualification that there must be adequate information on the watershed or a specific site as a basis for requiring tailored storm water controls beyond the minimum control measures." 64 Fed. Reg. 68,788 (Dec. 8, 1999). For this very reason it was particularly inappropriate for EPA to base the need for new permit requirements or expanded coverage of small communities on *presumptions* that MS4s are causing or contributing to the impairment, as occurred extensively through EPA's Draft Permit. Presumptions do not constitute "adequate information" and certainly do not provide a basis to conclude that expanded MS4 regulation is necessary to ensure adequate environmental protection.

The changes in the Draft Permit (from the pre-existing 2003 General Permit) go far beyond that set forth in § 122.34(e). The number of pages addressing New Hampshire Cities/Towns in the 2003 General Permit was a total of 33 pages of the 56 page permit.[2] In contrast, the Draft Permit contains an incredible 202 pages (*i.e.*, a six hundred percent increase) of the 217 page document that would apply to New Hampshire Cities/Towns.[3] This increase is not the byproduct

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[1] In fact, the Coalition has been unable to identify any other EPA regulation under the NPDES program or other environmental programs that has gone to such extremes.

[2] The 2003 General Permit contained the following 33 pages applicable to New Hampshire MS4s (of which 12 pages were Endangered Species Act guidance):

- Upfront verbiage/authorization (2 pp)
- Part 1 General Requirements (6 pp)
- Part 3 NH Small MS4 (6 pp)
- Part VI – Standard Permit Conditions. (4 pp)
- Part VI – Definitions (3 pp)
- Addendum A – ESA (12 pp)

[3] The Draft Permit contains 202 pages applicable to New Hampshire MS4s which includes:

- Upfront verbiage/TOC (3 pp)
- Part 1 - General Requirements (9 pp)

of a new "TMDL or equivalent" analysis that is justified based on case-specific considerations.[4] This 600% increase in pages of permitting requirements is clearly in contravention of the standard set forth in 40 C.F.R. § 122.34(e).[5]

- Part 2 - Non-Numeric Effluent Limitations (38 pp)
- Part 3 - Additional State Requirements (2 pp)
- Part 4 - Program, Evaluation, Record Keeping and Reporting (4 pp)
- Appendix A – Definitions (6 pp)
- Appendix B – Standard Permit Conditions (10 pp)
- Appendix C – ESA Guidance (12 pp)
- Appendix D – Historic Properties Preservation Procedures (5 pp)
- Appendix E – NOI Form (14 pp)
- Appendix F – Requirements for Approved TMDLs (73 pp)
- Appendix G - Monitoring Requirements for Discharges to Impaired Waters (2 pp)
- Appendix H – Requirements Pertaining to Nitrogen-Impaired Waters in the Great Bay Estuary and Chloride-Impaired Waters (20 pp)

In addition, Section 2.3.6.3 of the Draft Permit purports to incorporate by reference requirements in the New Hampshire Stormwater Manual, a document several hundred pages in length.

[4] EPA acknowledges, for example, that the Draft Permit contains an entirely different approach:

> EPA also agrees with the comment . . . that the approach to stormwater management in MS4s required under this [2013] permit [is so significant that it] may require a "paradigm shift" in many communities. . . . Low impact design, green infrastructure and other approaches encouraged and required by the permit treat rain as a resource – an entirely different approach that may require a paradigm shift among both the public and public works personnel.

Fact Sheet, at 35; *see also id.* at 86 ("EPA expects that most if not all permittees will need to revise and update aspects of their programs to meet the requirements of this permit."); *id.* ("The revision and updating of existing IDDE programs will be necessary because this permit requires the implementation of a far more detailed and thorough IDDE program than that adopted by most communities. EPA has prescribed these detailed requirements . . . . "); *id.* at 87 ("EPA is requiring a number of elements that go beyond the level of program commonly adopted under the MS4-2003."); *id.* at 120 ("EPA agrees that the SWPPP requirements applicable to maintenance garages, public works facilities, transfer stations and other waste handling facilities are significantly more complex than previously required and reasonably require additional time to develop."); *id.* at 125 ("EPA has determined . . . than an extensive IDDE program, going beyond the targeted areas that have typically been a focus, is to be a priority under this reissued permit."); *id.* at 143 ("The reissued permit is specifically intended to set higher standards and increase EPA's ability to track activities under the SEMPs."); *id.* at 144 ("EPA recognizes that the reissued permit takes an approach that is both more detailed and more protective than the MS4-2003.").

Furthermore, while the regulated community and EPA can debate whether EPA cost-estimates are artificially low, at a minimum, it is readily acknowledged by EPA that the annual costs to implement the draft MS4 requirements will range from $106,000 to $1,149,000 per year in 2010 dollars. *Id.* at 149. This does not include EPA's breakdown of monitoring costs per outfall, which is set forth in Table II.B.4 on page 159 of the Fact Sheet. As reflected in Table II.B.1 on page 151 of the Fact Sheet, these costs significantly exceed costs under the 2003 General Permit. As concluded by EPA, "EPA recognizes that compliance with this permit will require substantial investment by permittees to reduce the discharge of pollutants from their system . . . ." *Id.* at 148.

[5] While there are a number of things that various EPA personnel would like to see established as new regulatory requirements in the forthcoming MS4 rulemaking, the New Hampshire small MS4 general permit is not the appropriate vehicle for establishing such new requirements.

EPA purports to justify this approach by claiming that the "small MS4 permit from its inception was intended to be iterative in nature, with increasingly stringent requirements as permits are reissued." EPA totally ignores its own regulation which states the very opposite is intended to occur unless specific analyses confirm the need for more restrictive requirements. As stated in *Leather Industries v. EPA*, 40 F.3d 392 (D.C. Cir. 1994), the Clean Water Act ("CWA") "does not give EPA blanket, one way ratchet authority to tighten standards." As discussed above, it is extremely unusual for an EPA regulation to specify that requirements in reissued permits should not be more stringent except upon the existence of specific conditions. *Supra,* at n.1. Yet EPA acts as if 40 C.F.R. §§ 122.34 and 122.37 do not exist. As provided by these regulations, now is not the time to start imposing a "paradigm shift" based on presumptions of impairment contributions from MS4 communities. These circumstances are not TMDLs or an equivalent analysis.

To impose additional requirements under the existing rules, EPA must produce an analysis to show where the MS4 communities are documented to be a significant component of any alleged impairments. The CWA and implementing regulations do not allow EPA to simply presume a source is significant such that reductions must be mandated via a permit (*see, e.g.,* 40 C.F.R. § 122.44(d) requiring EPA to complete a "reasonable potential" analysis to justify the imposition of more restrictive water quality-based requirements). Thus, the permit should remain the same (with some limited exceptions) pending EPA's re-evaluation of the MS4 rules and completion of the necessary analyses.

2. The Draft Permit Attempts to Restrict Municipalities' Flexibility in Designing an MS4 Program Tailored to Its Needs and Conditions

The Draft Permit contains an approach that significantly decreases the inherent flexibility that municipalities are intended to have under the MS4 program. The requirements in the Draft Permit are essentially a one-size fits all approach that EPA is unilaterally dictating to the regulated community. EPA acknowledges the effect of its new permitting approach:

> However, EPA has found that the extremely flexible approach embodied in the MS4-2003 had a number of negative consequences. . . . The reissued permit is specifically intended to set higher standards and increase EPA's ability to track activities under the SEMPs, consistent with the national approach[6] as stormwater permits are issued.

[6] As the regulated community is still awaiting EPA's promulgation of the MS4 regulations, there is no new national approach. Based upon EPA's failure to meet the schedule for the proposal of new national stormwater regulations, it is likely that the final regulations will not be released in December 2014 as original thought. EPA is in the midst of negotiating a new schedule. Accordingly, any purported new approach is illegal without the requisite due process rulemaking.

Fact Sheet, at 143.

Municipalities, however, are intended to be provided significant flexibility in the development of an MS4 program and should not be subjected to a "one size fits all" approach. Moreover, EPA lacks authority to dictate, through NPDES permits, the means by which compliance is achieved. *Iowa League of Cities v. EPA,* 711 F. 3d 844 (8th Cir. 2013). The intent is for the municipality to develop a program based upon its specific needs and the actual conditions causing excessive runoff of a pollutant of concern. *See, e.g.,* 40 C.F.R. § 122.34(e). Such conclusions are clearly reflected by, amongst other things, EPA's preamble statement in the promulgation of the Phase II MS4 regulations:

> EPA has intentionally not provided a precise definition of MEP to allow maximum flexibility in MS4 permitting. *MS4s need the flexibility to optimize reductions in storm water pollutants on a location-by-location basis.*

64 Fed. Reg. 68,754 (Dec. 8, 1999) (emphasis added).

Moreover, at this time, there are scant MS4 regulations. As EPA is currently in the process of developing proposed regulations, the current MS4 regulations, as described by EPA, provide municipalities a great degree of flexibility to tailor the MS4 program to their site-specific needs. If mandatory requirements are to be established, EPA has made it clear that rulemaking is required:

> EPA disagrees with the notion that this regulation, which addressed permit application requirements, should create mandatory permit requirements which may have no legitimate application to a particular municipality. The whole point of the permit scheme for these discharges is to avoid inflexibility in the types and levels of control. Further, to the degree that such mandatory requirements may be appropriate, these requirements should be established under the authority of section 402(p)(6) of the CWA and not in this rulemaking, which addresses permit application requirements.

55 Fed. Reg. 47,990, 48,053 (Nov. 16, 1990).

Instead of EPA dictating what all MS4 communities must do, it is clear that the program is intended to allow the municipality to tailor the program based upon its perceived needs and professional judgment:

> Permits for different municipalities will place different emphasis on controlling various components of discharges from municipal storm sewers. For example, the potential for cross-connections (such as municipal sewage or industrial process wastewater discharges to a municipal separate storm sewer) is generally expected

> to be greater in municipalities with older developed areas. On the other hand, municipalities with larger areas of new development will have a greater opportunity to focus controls to reduce pollutants in storm water generated by the area after it is developed, discharges from construction sites, and other planning activities.

Id. Consistent with the letter and intent of the MS4 regulations, the permit should provide significant additional flexibility to New Hampshire MS4 communities to reflect only case specific circumstances necessitating more intense methods.[7] The program should not be creating broad presumptions of significant contributions to alleged impairment problems or creating new requirements to undertake detailed studies based on triggers that nowhere appear in state or federal law (*e.g.*, a single instream measurement of bacteria above the state's standard). These universally applicable changes and new permit requirements constitute unlawful rule amendments because they are not based on case-specific facts. These amendments should therefore be withdrawn.

3. Determining MEP Requirements is an Iterative Process Ultimately Providing for Compliance With WQS; Not a Program that Demands Immediate Compliance

The Draft Permit is based upon the legal standard that "pollutant discharge be reduced to the maximum extent practicable and not cause or contribute to an exceedance of water quality standards." Fact Sheet, at 117. This, however, is the wrong legal standard applicable to MS4s, let alone small MS4s, which are intended to be treated in less restrictive more flexible manner. *See* CWA § 402(p). The "shall not cause or contribute" standard is only applicable to new discharges to impaired waters (40 C.F.R. § 122.4(i)) and an MS4 discharge is certainly not a "new" discharge. Stormwater abatement is to be required "to the extent necessary to mitigate impacts on water quality." CWA § 402(p)(5). EPA is not authorized, via the permit process, to create new regulatory obligations or amend those established by statute. This permit must be withdrawn or amended to allow application of the correct regulatory standards.

Likewise, while a permit may contain some controls associated with progress towards attainment of water quality standards, it should not require compliance with water quality standards at this time, nor hold the permittee liable for "causing or contributing to an exceedance of water quality standards." As EPA explained in the MS4 rulemaking:

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[7] *See also* 55 Fed. Reg. 47,990, 48,001 (Nov. 16, 1990) ("EPA notes that each municipal program will be tailored to the conditions in that city."); *id.* at 48,052 ("[A]pplicants should be given the opportunity to identify and propose the components of the program that they believe are appropriate for first preventing or controlling discharges of pollutants."); *id.* ("Flexibility in developing permit conditions will be encouraged . . . . ").

> At this time, EPA determines that water quality-based controls, implemented through the iterative processes described today are appropriate for the control of such pollutants and will result in reasonable further progress towards attainment of water quality standards.

64 Fed. Reg. 68,731 (Dec. 8, 1999). Particularly for those MS4 communities now being subject to MS4 permitting for the first time, immediate compliance with water quality standards is not appropriate, nor legally required. Even communities with preexisting MS4 permits will need additional time for compliance with water quality standards.[8] EPA explained:

> EPA envisions application of the MEP standard as an iterative process. MEP should continually adapt to current conditions and BMP effectiveness and should strive to attain water quality standards. Successive iterations of the mix of BMPs and measurable goals will be driven by the objective of assuring maintenance of water quality standards. *If, after implementing the six minimum control measures there is still water quality impairment associated with discharges from the MS4, after successive permit terms the permittee will need to expand or better tailor its BMPs within the scope of the six minimum control measures for each subsequent permit. EPA envisions that this process may take two to three permit terms.*

64 Fed. Reg. 68,754 (Dec. 8, 1999) (emphasis added).

In October 2011, EPA as the NPDES permitting authority, issued an MS4 permit in the District of Columbia. In responding to comments and explaining its permitting decision, EPA specifically recognized the legal standard applicable to MS4 permitting as an iterative permitting process and that the existing permit would be a step toward ultimately achieving water quality standard objectives. Citing, amongst other things, the preamble statements (referenced above), EPA's response to comments specifically recognized that compliance with water quality standards is not required at this time:

> Section 301(b)(1)(C) of the CWA, 33 U.S.C. § 1311(b)(1)(C), requires the achievement of limitations, including those necessary to meet applicable water quality standards (WQS). Section 402(p)(3)(B) of the CWA, 33 U.S.C. § 1342(p)(3)(B)(iii), provides that Permits for discharges from municipal storm sewers 'shall require controls to reduce the discharge of pollutants to the maximum

[8] The draft MS4 fact sheet recognizes that municipalities cannot reasonably be expected to meet water quality standards at this permitting juncture. *See, e.g.,* Fact Sheet, at 49 ("EPA is also aware that many permittees, especially those in highly urbanized areas, likely will be challenged to attain all applicable water quality standards within this MS4 permit cycle."); *id.*, at 50 ("EPA has long recognized that it may take decades or longer to address the water quality impacts of existing municipal stormwater discharges. See EPA's Preamble to the Phase II regulations, 64 Fed. Reg. 687822 (Dec. 8, 1999).").

extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.' *When read together, these two sections suggest that municipal sources control their discharges to the MEP, with the ultimate achievement of WQS which is expected to occur over several permit cycles.* This is consistent with the construct of EPA's Final Phase II Stormwater Rule, *National Pollutant Discharge Elimination System – Regulations for Revision of the Water Pollution Control Program Addressing Stormwater Discharge*, 64 Fed. Reg. 68722, 68731 (Dec. 8, 1999) [website reference omitted]. ('At this time, EPA determines that water quality-based controls, implemented through the iterative process described today are appropriate for the control of such pollutants and will result in reasonable further progress towards attainment of water quality standards. . . . '); *id.* at 68753 ('EPA envisions application of the MEP standards as an iterative process.'); *id.* at 68754 ('EPA also believes the iterative approach toward attainment of water quality standards represents a reasonable interpretation of CWA section 402(p)(3)(B)(iii).').

USEPA, Responsiveness Summary, National Pollutant Discharge Elimination System (NPDES) Permit Renewal for Government of the District of Columbia, at 65 (emphasis added). As such, "EPA acknowledges that such standards [*i.e.,* water quality standards] attainment may not occur in its entirety during this Permit cycle." *Id.* at 80. Accordingly, EPA included a condition in the DC NPDES permit specifically recognizing that water quality standards and wasteload allocations (developed as part of a TMDL) would be achieved as part of the iterative process.[9]

In contrast to the EPA-recognized legal standard, the Draft Permit imposes liability on the permittees for failure to meet water quality standards immediately. Section 2.1 of the draft MS4 permit provides, in part:

3.1.1 Water Quality Based Effluent Limitations

Pursuant to Clean Water Act 402(p)(3)(B)(iii), this permit includes provisions to ensure that discharges from the permittee's small MS4 do not cause or contribute

[9] Section 4.1 of the EPA-issued permit provides:

> Compliance with the performance standards and provisions contained in Parts 2 through 8 of this Permit shall constitute adequate progress toward compliance with DCWQS and WLAs for this Permit term.

NPDES Permit issued by USEPA to Government of the District of Columbia, NPDES Permit No. DC000021, (Oct. 21, 2011) at 6, ¶ 4.1.

to an exceedance of water quality standards, in addition to requirements to reduce the discharge of pollutants to the maximum extent practicable. The requirements found in this Part and Part 2.2 constitutes the water quality based effluent limits of this permit. Requirements to reduce the discharge of pollutants to the maximum extent practicable are set forth in Part 2.3.

3.1.2 Requirement to Meet Water Quality Standards

a. Discharges shall not cause or contribute to an exceedance of applicable water quality standards (including numeric and narrative water quality criteria) for the receiving water. Applicable water quality standards are the State standards that have been federally approved as of the effective date of this permit.

Draft Permit, at 13.[10] Such provisions are not authorized by the adopted NPDES rules or the statutory language. Consistent with the applicable legal interpretation, NPDES permit conditions imposing liability upon a failure to meet water quality standards should be deleted.

4. The Draft Permit Should Not Require Immediate Compliance with TMDLs but Instead Should Provide an Iterative Process

TMDLs are merely one means of implementing a water quality standard. According to EPA, a wasteload allocation ("WLA") derived from a TMDL "constitute[s] a type of water quality-based effluent limitation." 40 C.F.R. § 130.2(h).[11] A case specific water quality-based effluent limit may also be derived under the procedures specified in 40 C.F.R. § 122.44(d).

As the juxtaposition of MEP and CWA water quality requirements, as discussed above, provides for an iterative process over several rounds of MS4 permitting for meeting water quality standards, such iterative process is equally applicable to those requirements set forth in TMDLs. This is not to say that TMDL requirements are ignored. Where an approved TMDL provides adequate information to develop more specific measures to protect water quality, then measures can start to be developed and implemented with the ultimate goal, similar to any other water quality standard, of attainment of that standard through the iterative process. Nonetheless, the process is iterative, not immediate as the degree of and effectiveness of MS4 controls is not apparent.

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[10] *See also* Fact Sheet, at 50 ("Even where a permittee is in compliance with the requirements of Part 2.2 of the permit, it may still be in violation of Part 2.1.1 of the permit if its discharge causes or contributes to an exceedance of water quality standards.").

[11] *See also* 64 Fed. Reg. 68,789 (1999) ("The development and implementation of total maximum daily loads (TMDLs) provide a link between water quality standards and effluent limitations.").

In fact, it was that type of approach that was approved in *Tualatin Riverkeepers v. Or. Dep't of Envtl. Quality*, 235 Ore. App. 132, 146-148 (Or. Ct. App. 2010). In *Tualatin*, the court specifically endorsed the adaptive management approach of implementing MEP in making progress toward achieving the WLA:

> The permits provide in the "adaptive management" section that, "[w]here TMDL wasteload allocations have been established for pollutant parameters associated with the permittee's [municipal separate storm sewer system] discharges, the permittee must use the estimated pollutant load reductions (benchmarks) established in the [storm water management plan] to guide the adaptive management process." Furthermore, they include a section that specifically addresses the TMDL wasteload allocations. The section is intended to "ensure pollutant discharges for those parameters listed in the TMDL are reduced to the [maximum extent practicable]. Adequate progress toward achieving assigned wasteload allocations * * * will be demonstrated through the implementation of best management practices that are targeted at TMDL-related pollutants.[12]

The Draft Permit, however, in contrast, would require compliance with the TMDL immediately, or no later than the date set forth in the TMDL. Such approach is inconsistent with the CWA provisions governing MS4 programs as well as the adopted rules. The TMDL requirements in the Draft Permit should be modified to provide an iterative process associated with compliance with TMDLs, not to create immediate non-compliance.

5. Liability May Not Be Imposed for "Contributing" to a Violation; It May Only Be Imposed for "Causing" a Violation

In addition to the concern, discussed above, regarding the Draft Permit imposing liability upon the permittee for violation of a water quality standard, the Draft Permit exacerbates liability concerns by purporting to impose liability on a permittee that "contributes" to a violation, even if the violation is not caused by the permittee. While the standard "or contributes" may be appropriate when EPA is undertaking the "reasonable potential" evaluation and determining whether or not a water quality-based limit should be included, it is not an appropriate standard for imposing liability upon the permittee and does not define the degree of pollutant reduction that must be achieved. Again, attempting to impose a "cause or contribute" prohibition constitutes an illegal amendment to the adopted rules and is contrary to the CWA (*e.g.*, Section 301(b)(1)(C) only allows imposition of more restrictive limits as "necessary" to achieve applicable standards; *accord* 40 C.F.R. § 122.44(d)).

[12] *Tualatin*, 235 Ore. App. at 147.

Case law has specifically determined that liability can only be imposed for "causing" a violation, not for "contributing" to a violation. *See Nat'l Ass'n of Metal Finishers v. EPA*, 719 F.2d 624 (D.C. Cir. 1983).[13] The prohibition against "contributing" to a water quality violation should be deleted from the draft permit as it is inconsistent with the statute and implementing regulations.

6. It is Improper to Impose Additional Requirements on MS4s after the Final Permit has been Issued Without Following the Proper Procedural Steps

Part 3.1.2 of the Draft Permit provides for the potential automatic inclusion of additional requirements upon permittees without amendment of the permit or any further due process procedures. This section provides:

> 3.1.2 – If New Hampshire Department of Environmental Services (NH DES) determines that additional water quality certification requirements are necessary to protect water quality, it may require individual applicants to meet additional conditions to obtain or continue coverage under this permit. Any such conditions shall be supplied to the permittee in writing. Any required pollutant loading analysis and any designs for structural best management practices necessary to protect water quality shall be prepared by a civil or sanitary engineer registered in New Hampshire.

See also Fact Sheet, at 25 ("The requirements include . . . provision for NHDES to add additional water quality certification requirements if necessary to protect water quality. . . ."). This condition appears to be completely open-ended, as EPA acknowledges that "NHDES has not identified more specifically under what conditions or circumstances it would necessitate such additional requirements." *Id.* at 135.

State certification, however, is not a continuous process. A State gets to certify a preliminary draft or draft permit. Neither CWA Section 401 nor EPA regulations, (*see, e.g.*, 40 C.F.R. § 124.53), provide a State the right to modify a state certification during the term of the permit to unilaterally impose new requirements upon the discharger. Section 401(a)(1) provides, for example, that "[n]o license or permit shall be granted until the certification required by this

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[13] In response to the *Nat'l Ass'n of Metal Finishers* case, EPA amended its regulations stating:

> Finding that the definition did not require causation to establish liability, the court held that this approach contravened the intent of Congress: "[W]e conclude that given the language and purpose of the [Clean Water] Act, an direct discharge [sic] cannot be liable under the prohibited discharge standard unless it is a *cause* of the POTW's permit violation or sludge problem" . . .

50 Fed. Reg. 25,527 (June 19, 1985).

section has been obtained or has been waived as provided in the preceding sentence." It reflects that the certification is *prior to* the issuance of the permit, not afterwards.

The regulations require that "State certifications shall be granted or denied within the reasonable time specified under paragraph (c)(3)." 40 C.F.R. § 124.53(d). Moreover, the referenced subsection (40 C.F.R. § 124.53(c)(3)) provides that a State will be deemed to waive its right to certify unless that right is exercised within a reasonable time *not to exceed 60 days from the date the draft permit is mailed* to the State. As the draft permit had been provided to the State more than sixty days ago, the State no longer has a right to impose additional requirements through the permitting process.

If a State is to impose conditions through a certification, it must clearly state what those conditions are:

> [C]ertifications have not always clearly stated exactly what conditions are necessary to comply with State law, and whether less stringent conditions would also satisfy State law. The final regulations remedy these problems by requiring States to set forth in all cases the minimum terms and conditions which will be necessary to comply with applicable law.

44 Fed. Reg. 32,880 (June 7, 1979).[14]

Furthermore, EPA's regulations provide a process for modification of the NPDES permit based upon changed circumstances. 40 C.F.R. § 122.62. It does not provide an open-ended provision for a State, once the permit has become effective to independently superimpose new requirements, whether water quality related or otherwise. Such action would constitute a permit modification that must be subject to the applicable NPDES due process procedures. Consequently, Part 3.1.2 should be deleted.

In addition, the draft permit also purports to allow EPA to superimpose additional requirements upon the permittee without following NPDES permit amendment procedures. For example, section 2.3.4.8 of the draft permit provides that "EPA may *at any time* determine that a particular element is in fact applicable to the permittee and require the permittee to add it to the IDDE program." (emphasis added). Either such provisions should be deleted from the permit or EPA should clarify that due process procedures apply to modification of the permittee's legal obligations under the permit and no such modifications will be applicable unless and until all administrative process and appeal rights are completed.

[14] While this statement was made in the preamble to the proposed regulation, EPA indicated in the final rulemaking that it was relying on the rationale set forth in the June 7, 1979, proposal. 98 Fed. Reg. 33,413-14 (May 19, 1980).

7. The Office of Management and Budget Must Provide Approval Pursuant to the Paperwork Reduction Act to the Large Reporting Burden Being Place on the Permittees Under the Draft Permit

It appears that a huge additional reporting burden has been placed on the permittees.[15] We question whether EPA has received OMB approval of all of the reporting burden being imposed through the permit pursuant to the Paperwork Reduction Act ("PRA"), 44 U.S.C. §§ 3501 *et seq.* For example, the extensive NOI form contained in Appendix E fails to reflect an OMB approval number, something that is typically included on EPA reporting forms when approval has been obtained.

The fact sheet identifies the OMB approvals as being (1) OMB control number 2040-0086 for the NPDES permit application and (2) OMB control number 2040-0004 for monitoring reports. As this is not a permit application, but instead the imposition of permit requirements, the permit application approval is irrelevant.[16] Furthermore, the OMB approval of the burden associated with the monitoring reports clearly does not address the significant burden that would be imposed upon the permittees through the Draft Permit. There are extensive reporting burdens imposed upon the permittee that are not part of the monitoring report. This includes, but is not limited to, the burden that would be imposed upon the permittee in meeting the Endangered Species Act ("ESA") requirements set forth in the Draft Permit which would require the permittee to document the results of its determinations.[17] We request that EPA remove all requirements in the permit which are not currently approved by OMB pursuant to the PRA.

8. It is EPA's Responsibility to Ensure that Endangered Species Act Requirements are Met; this Burden Cannot be Imposed on the Permittee

Section 1.9.1 and Appendix C of the Draft Permit requires permittees to engage in a multi-step consultation process which imposes conditions that are not based upon the water-quality of the discharge (*i.e.,* these are not effluent limitations or provisions designed to ensure effluent

[15] *See, e.g.,* Fact Sheet, at 136 (comment 5.0(ii) from City of Portsmouth identifying "approximately 2,000 staff hours would be required to comply with the administrative components of the draft Permit such as tracking and annual reporting.").

[16] *See, e.g.*, 55 Fed. Reg. 47,990, 48,053 (Nov. 16, 1990) (reflecting that the permit application requirements are distinguished from the permitting requirements).

[17] Draft Permit Appendix C, at 3, 7.

limitation attainment). This requirement is unprecedented and cannot be imposed on the permittees as it is EPA's duty, not the permittees.[18]

EPA has not historically imposed conditions in an NPDES permit which makes the permittee responsible for compliance with ESA (16 U.S.C. §§ 1531 *et seq.*) requirements (*e.g.*, Section 7 consultations under 16 U.S.C. § 1536). NPDES regulations do not make such an assessment part of the permit application or compliance process. It is EPA's responsibility (not the permittee's) to ensure that NPDES permits comply with ESA requirements. *See* 50 C.F.R. § 402.08 ("The ultimate responsibility for compliance with Section 7 remains with the Federal agency."). The CWA regulations specifically state that the ESA and its implementing regulations "require [that the EPA] Regional Administrator ensure, in consultation with the Secretary of Interior or Commerce, that any action authorized by EPA is not likely to jeopardize the continued existence of any endangered or threatened species or adversely affect its critical habitat." 40 C.F.R. § 122.49(c). To the extent EPA had discretion to allow non-Federal parties to engage in section 7 consultations, EPA made clear in its regulations that it would not use this discretion and instead retains sole responsibility to ensure all permits are in compliance with ESA requirements. Therefore, EPA should be undertaking any ESA activities prior to issuing the NPDES permit and any attempt to delegate that responsibility is contrary to the ESA and the implementing rules.

Furthermore, to the extent Section 7 consultation is required in the NPDES permit context, it must be undertaken *by EPA* before an agency action is final. *See e.g.,* 16 U.S.C. § 1536(a)(3) ("a Federal agency shall consult with the Secretary on a *prospective agency action* …and in cooperation with, the *prospective permit or license applicant* …") (emphasis added). The purpose of engaging in Section 7 consultation is to "insure that any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species …" *Id.* at § 1536(a)(2). The no jeopardy or adverse modification determination must be made prior to the finalization of the agency action in order to allow for modifications to the action if a jeopardy or adverse modification determination is made. *See e.g., id.* at §

[18] Potentially the multi-step consultation incorporates, amongst other things, the following general conditions in the permit:

(1) Engage in informal consultation under 50 C.F.R. § 402.13, to determine if the permit would "likely [] jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species." 16 U.S.C § 1536(a)(2).

(2) If during informal consultation it is determined that jeopardy or adverse modification would occur, then EPA and Fish and Wildlife Service ("FWS") and/or National Oceanic and Atmospheric Administration ("NOAA") word engage in formal consultation under 50 C.F.R. § 402.14. The permittee's role in formal consultation involves submitting any additional information for consideration during the consultation process (*Id.* § 402.14(d)) and involvement in the discussions regarding FWS/NOAA "review and evaluation" of the data submitted and development of suggested alternatives to avoid jeopardy or adverse modification (*Id.* § 402.14(g)(5)).

1536(b)(3)(A) ("If jeopardy or adverse modification is found, the Secretary shall suggest those reasonable and prudent alternative which he believes would not violate subsection (a)(2) of this section and can be taken by the Federal agency or applicant in implementing the agency action."). Therefore, if Section 7 consultation is required for an NPDES permit, it must be undertaken *by EPA* before the NPDES permit is issued.

Assuming, for the sake of argument, that ESA Section 7 consultation is required and EPA can pass this requirement on to the permittee, this requirement cannot be imposed as a NPDES permit condition. The Court of Appeals for the District of Columbia Circuit made clear in *Natural Res. Def. Council ("NRDC") v. EPA,* that EPA may not impose conditions in a CWA permit that are unrelated to water-quality. 859 F.2d 156 (D.C. Cir. 1988). In that case, NRDC challenged NPDES regulations promulgated by EPA related to National Environmental Policy Act ("NEPA", 42 U.S.C. §§ 4321 *et seq.*) regulations (40 C.F.R. §§ 129.29(c)(3), 122.44(d)(9), 122.49(g)) which EPA interpreted to grant it authority to "impose permit conditions unrelated to effluents." *Id.* at 169. EPA argued that NEPA allowed the agency to consider "additional environmental factors" and "to act on these by imposing any condition necessary to account for the environmental effects of the entire new facility," not just the discharge from the facility. *Id.* The court disagreed with EPA's position and held that NEPA "does not expand the range of final decisions an agency is authorized to make. ... NEPA does not expand an agency's substantive powers." *Id.* (*citing NRDC v. EPA*, 261 U.S. App. D.C. 272 (D.C. Cir. 1987)). The court further stated that "EPA may not, however, under the guise of carrying out its responsibilities under NEPA transmogrify its obligation to regulate discharges into a mandate to regulate the plants or facilities themselves. To do so would unjustifiably expand the agency's authority beyond its proper perimeters." *Id.* at 170. Therefore, the court held that EPA's authority under NEPA, only allowed EPA to consider the environmental effects based on the water quality impacts of the discharge. *Id.*

It is clear from *NRDC v. EPA* that, in issuing NPDES permits, EPA may only add requirements based on other statutory mandates that apply directly to the water-quality impact of the discharge as provided for by its CWA authority. The CWA does not regulate endangered species. EPA, in other contexts, has stated that adopted standards are presumed protective of endangered species absent information to the contrary. While the imposition of water quality-based permit limits due to a consultation may be possible under EPA's approach, the formal consultation process imposed clearly cannot be imposed in the NPDES permit as a permit requirement based upon the mere possibility that a facility may or may not be subject to additional water quality-based effluent limits. This entire section and related Appendix should be deleted.

9. The Draft Permit Inappropriately Shifts the Burden To the MS4 To Demonstrate It Is Not Causing or Contributing to an Impairment

The Draft Permit inappropriately presumes that the permittees are causing or contributing to an impairment. Section 2.2.2.a(i)(a) of the draft permit specifically states that:

> EPA presumes that MS4 discharges are potential contributors to impairments due to nutrients (phosphorus or nitrogen), bacteria, suspended solids, metals, or oil and grease.

Draft Permit, at 19.[19] While EPA clearly recognizes that the permittee may not be the underlying cause of the impairment,[20] the permit, nevertheless, shifts the burden on the permittee to demonstrate that it is not the cause of the impairment in order to avoid implementing the BMPs:

> The revisions to Part 2.2.2 make provisions for these situations by allowing permittees to demonstrate that their discharges are not potential contributors and thereby be excused from developing BMPs. See Part 2.2.2.a(iii).

Fact Sheet, at 51. The Fact Sheet further provides:

> The Permit provides an opportunity for permittees to demonstrate that their discharges do not cause or contribute to an impairment and that BMP implementation is therefore not required. . . . However, for common stormwater pollutants, including nutrients, bacteria, suspended sediments, metals and oil and

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[19] Similarly, the Fact Sheet provides:

> There are cases where a receiving water is impaired for reasons other than stormwater runoff, and MS4 discharges are not contributing to the problem, the revised permit language allows for an MS4 operator to make that determination, subject to review by EPA. However, for common stormwater pollutants, including nutrients, bacteria, suspended sediments, metals and oil and grease, urban stormwater is likely to be a source and EPA presumes MS4 discharges have potential to contribute to the impairment. The mere presence of other sources, including upstream communities (MS4 or otherwise), is not a sufficient basis for concluding that a permittee's discharges do not contribute to an impairment. Similarly, in receiving waters impacted by CSOs, MS4s may still contribute bacteria even if to a lesser extent than CSO discharges.

Fact Sheet, at 52-53.

[20] EPA states:

> EPA recognizes that there are impairments that are not related to stormwater discharges, either because they are not present in the discharge or because they are not related to pollutants (e.g. non-native aquatic plants). MS4 permittees are not responsible for impairments that are due to natural occurrence and not present in discharges from outfalls, as in the iron example cited by the Town of Derry.

Fact Sheet, at 51.

grease, urban stormwater is likely to be a source and EPA presumes MS4 discharges have potential to contribute to the impairment.

Fact Sheet, at 52-53. As such, the permit requires the permittee to implement BMPs unless it can demonstrate, to the satisfaction of EPA, that it is not the cause of the underlying impairment.

EPA's approach (*i.e.,* presume a MS4 contributes to an impairment and make the MS4 prove it does not) violates the basic structure of the Act and the relevant implementing regulations. Under 40 C.F.R. § 122.44(d)(1)(ii), a *permitting authority* determines whether a discharge "causes, has the reasonable potential to cause, or contributes to" an excursion of water quality standards. The "reasonable potential analysis is required to account for dilution, the various sources of the pollutant of concern and current/proposed treatment improvements affecting pollutant levels in rendering a decision on the need to control a particular facility." *Id.* Once such a determination is made, the permitting authority determines whether a pollutant reduction is required. Likewise, under Section 303(c), the state (or EPA) determines which sources require control under the TMDL program. Neither the CWA nor EPA's regulations provide a basis to presume an impairment contribution or to transfer the assessment procedure to the permittee.

Such an approach was recently struck down by the District Court for the District of Columbia as an unlawful attempt to amend existing regulations. As explained by the court in *Nat'l Mining Ass'n v. Jackson*, 880 F. Supp. 2d 119, 139 (D.D.C. 2012), EPA cannot assume that reasonable potential exists for imposing limits and, thereby, shift the burden to the permittee to show that a reasonable potential does not exist. The court reasoned that by EPA presuming that, "based on the scientific studies regarding conductivity, it is likely that all discharges will lead to an excursion or that the conductivity studies will be instructive on the matter, [EPA] removes the reasonable potential analysis from the realm of state regulators." *Id.* Shifting the burden is not allowed by the CWA. The court stated: "Should the EPA wish to alter the manner by which a reasonable potential analysis is conducted, it is of course free to amend the regulation in a manner consistent with the APA [Administrative Procedures Act] and its own statutory authority." *Id.* at 141-142. However, until then, EPA cannot assume certain conditions exist resulting in new permit requirements. In effect, EPA is declaring cities to be in violation of the law without the opportunity (afforded by the CWA and APA) to appeal such a determination. That approach is also unlawful. *Sackett v. EPA*, 132 S. Ct. 1367 (2012).

Accordingly, the permit should delete any and all requirements that are based upon presumptions that the MS4 is "causing or contributing" to impairments as well as any provisions that place the responsibility to conduct "reasonable potential" analyses on the permittee. In particular, this includes removal of BMP requirements that are based upon the presumption that the discharger is a cause or contributes to impairments.

10. Holding the Permittee Liable for Illegal Acts of Others is Inconsistent with Stormwater Regulations

EPA's stormwater regulation at 40 C.F.R. § 122.26 repeatedly recognizes that third parties, whether it be individuals, industries, or neighboring municipalities, will on occasion and often illegally, contribute pollutants to discharges by a stormwater permit holder. However, unlike the proposed permit at issue,[21] EPA's regulation does not hold the permitee liable for such illicit discharges. For instance, 40 C.F.R. § 122.26 mentions "illicit" discharges twelve (12) times. In each case, the regulation talks about a MS4 permit holder's responsibility to identify, track, report, ameliorate, and, ultimately, eliminate such discharges. *See, e.g.,* 40 C.F.R. § 122.26(d)(1)(V)(B) ("A description of the existing program to identify illicit connections to the municipal storm sewer system. The description should include inspection procedures and methods for detecting and preventing illicit discharges, and describe areas where this program has been implemented."). However, the regulation nowhere identifies that a permit holder will be liable for such third party contributions or actions. Being obligated to take all reasonable measures to discourage such illicit additions to its MS4 collection system is a far cry from being held liable if such measures are not wholly effective. When it comes to illicit discharges, EPA's stormwater regulations do not require a MS4 to meet such a flawless standard and this permit should not seek to establish such a standard as it would be fundamentally unfair.[22]

Similarly, EPA's stormwater regulations repeatedly recognize that MS4s are frequently set up such that adjacent or neighboring systems are operated by "co-permittees." *See, e.g.,* 40 C.F.R. § 122.26(a)(3)(iii)(A) ("Participate in a permit application (to be a permittee or a co-permittee) with one or more other operators of discharges from the large or medium municipal storm sewer system which covers all, or a portion of all, discharges from the municipal separate storm sewer system"). In this regard, EPA specifically notes that "co-permittees need only comply with permit conditions relating to discharges from the municipal separate storm sewers for which they are operators." 40 C.F.R. § 122.26(b)(1)(vi). Put differently, a co-permittee is not liable for the failure of its neighboring jurisdictions to abide by its conditions. As drafted, however, the draft permit appears to hold a MS4 permit holder liable for the contributions of neighboring (up-

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[21] The Fact Sheet specifically notes that the permit would hold the permittee liable for the illegal acts of others:

> EPA notes that the period between identification and elimination of an illicit discharge is not a grace period, and an illicit discharge to the MS4 remains a violation of the permit until eliminated.

Fact Sheet, at 90 n.25.

[22] To hold an MS4 permittee liable for the illegal acts of others would be tantamount to holding every Department of Transportation liable for speeding or other illegal acts of drivers undertaken on its roads.

system) towns and municipalities.[23] Holding one municipality liable for the actions (or omissions) of a separate municipality is inconsistent with EPA's stormwater regulations. Accordingly, it is requested that the Draft Permit be modified or clarified such that, at a minimum, the permit holder is not liable for such third party contributions and, where a joint discharge occurs, only the jurisdiction responsible for the violation is made liable for its excessive contributions to the MS4 discharge. Furthermore, the MS4 permit should be clarified to reflect that the MS4 permittee is not responsible for reduction in loads or implementation of BMPs associated with loadings that are generated upstream of its jurisdictional boundary and end up in the MS4 discharge.[24]

Without waiving our right to object to the imposition of liability upon a municipality due to the illegal acts of others, we also point out that there are a number of municipalities being brought into the MS4 program for the first time. It would be impossible for a NPDES permittee, as of the first date of coverage under the permit, to be able to identify and eliminate illicit discharges. A compliance schedule, providing a reasonable time for implementation of activities to identify and eliminate illicit discharges, is therefore required. As this is purely a regulatory prohibition, not otherwise mandated to meet applicable standards, the federal or state authority allowing compliance schedules is applicable.

11. Monitoring is Intended to be Based on What a Municipality Finds Appropriate and Useful

While we appreciate the fact that the monitoring is not quite as onerous as provided in the 2008 draft permit, we believe that the command and control approach to monitoring is still problematic. For example, in responding to a comment by the City of Goffstown, EPA states:

> With respect to the Town of Goffstown's comment that discretion to concentrate on suspected areas of concern would be a more prudent use of limited resources, EPA is requiring a comprehensive system-wide examination.

Fact Sheet, at 97. Such an approach where EPA dictates the activities that should be undertaken by a municipality, particularly where the municipality does not find such approach to be useful,

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[23] For example, the Fact Sheet, in addressing lake and pond phosphorus discharges states:

> A permittee that operates an MS4 within the watershed boundaries of the respective impaired lake or pond is thus required to achieve the relative phosphorus reduction form the baseline phosphorus loading from any MS4 area draining to the impaired waterbody (both direct stormwater drainage, and stormwater discharge form outfalls and their contributing area).

Fact Sheet, at 8.

[24] This is particularly critical as municipalities generally do not have the legal ability to implement requirements outside of their jurisdictional boundary. *See L.A. County Flood Control Dist. v. NRDC*, 133 S. Ct. 710 (2013).

flies in the face of the MS4 regulations. First, it is important to keep in mind, as readily admitted by EPA, that the MS4 regulations "do not include specific management practices or standards to be implemented." 74 Fed. Reg. 68,620 (2009). Furthermore, EPA recognizes that "stormwater permits leave a great deal of discretion to the regulated community to set their own standards and to self-monitor." *Id.* In fact, monitoring programs are supposed to be designed to be based upon reasonable municipal preferences, not that of the permit writing agency:

> EPA encourages permitting authorities to work with permittees to determine if storm water monitoring efforts are appropriate and useful. * * * [MS4s may] evaluate their monitoring program and propose changes to make the program more appropriate and useful. To accomplish this, municipalities may wish to consider using monitoring techniques other than end-of-pipe chemical-specific monitoring. . . .

61 Fed. Reg. 41,699 (Aug. 9, 1996).

Accordingly, it is requested that EPA revise its command and control approach to be consistent with the adopted rules and provide MS4 communities the opportunity to utilize such monitoring as they find to be the most appropriate and useful for their situation.

12. The Draft Permit Fails to Adhere to the Regulatory Flexibility Act

As the Draft Permit is poised to significantly increase the burden on small municipalities and local businesses, EPA should have prepared an initial regulatory flexibility analysis, in accordance with the Regulatory Flexibility Act (5 U.S.C. §§ 601 - 612) ("RFA"). The RFA generally requires agencies to analyze and explain the impact of their actions on small entities (businesses, non-profit organizations, and small jurisdictions of government). EPA, however, claims that "since the general permit affects less than 100 small entities, it does not have a significant economic impact on a substantial number of small entities." Fact Sheet Attachment 1, at 64.

As an initial matter, such a conclusion flies in the face of the guidance document[25] relied on and referenced by EPA in the Fact Sheet (*id.),* which states: "It remains EPA policy that program offices should assess the direct adverse impact of every rule on small entities and minimize any adverse impact to the extent feasible, regardless of the magnitude of the impact or number of small entities affected." Final Guidance for EPA Rulewriters, at 3. Moreover, EPA's estimate of the number of small entities affected did not include the countless number of small businesses

[25] Final Guidance for EPA Rulewriters: Regulatory Flexibility Act as Amended by the Small Business Regulatory Enforcement Fairness Act ("Final Guidance for EPA Rulewriters) (Nov. 2006), *available at* http://www.epa.gov/rfa/documents/Guidance-RegFlexAct.pdf.

that will be substantially impacted as a result of the conditions set forth in the Draft Permit. However, even if EPA's estimate of affected entities were correct, EPA provides no explanation for concluding that this number is "insignificant."[26] On this issue, the anticipated costs of the Draft Permit on small governmental jurisdictions will be very significant, especially for the smaller municipalities.[27] In no sense of the word could this impact be considered "insignificant." If anything, the fact that this cost estimate will be defrayed by a relatively small number of affected entities highlights the substantial nature of EPA's action. Accordingly, as EPA's conclusion represents a blatant disregard for the impacts the Draft Permit will impose, EPA should comply with the RFA in issuing the Draft Permit.

13. MS4s Should Not Be Responsible for Identifying Floor Drains That May Be Connected to Illicit Discharges

Section 2.3.7.2(b)(ii) of the Draft Permit would require the Stormwater Pollution Prevention Plan (SWPPP) to include the "location of floor drains" at facilities. Draft Permit, at 47. EPA purports to justify this approach stating that "EPA believes that examination of floor drain connections that present an unusual risk of illicit discharge, such as from maintenance shops, is an appropriate requirement to ensure that there are no improper connections to the MS4." Fact Sheet, at 110. It is not reasonable for EPA to require the MS4 permittee to identify all floor drains at all facilities within its jurisdiction. If EPA believes identification and inspection of floor drains to be necessary, then we request EPA to identify the extent to which it identified and inspected floor drains in those municipalities which do not have an MS4 program. Moreover, EPA should have assessed this as part of its statutory evaluation of MS4 programs to determine if such control should be universally applied. Municipalities, like EPA, have limited resources. As such, we would like to avoid the situation where EPA is asking a municipality to expend its resources on activities that EPA, itself, does not believe merit the use of its dollars. This provision should be dropped as no legally or technically sufficient supporting basis was provided for its justification as a "belief" is not evidence of a need.

[26] As noted on pages 47-48 of these comments, EPA's BMP performance curves are plainly in error and inconsistent with other estimates provided to more developed programs (*e.g.*, Chesapeake Bay).

[27] While there is a huge disparity between the costs estimates by the MS4 permittees and EPA, at a minimum it is clear that the costs merely for implementing minimum control measures will be at least $78,000 to $829,000 per year per permittee averaged over the term of the permit. Given the number of permittees, such per year costs are anything but insignificant. Fact Sheet, at 154. EPA also readily acknowledged that its cost estimate excludes some very significant costs, such as compliance with the water quality-based effluent limitations. *Id.* at 149.

14. EPA has No Authority to Regulate Catch Basins

Section 2.3.7.1(d)(ii) of the Draft Permit (Operation and Maintenance Programs) provides that "the permittee shall optimize routine inspections, cleaning and maintenance of catch basins such that … no sump shall be more than 50% full." Draft Permit, at 45. While it is understood that cleaning sumps and catch basins is part of the expected management practices to ensure their proper operation, this provision, as worded is unduly restrictive. While some sumps must be cleaned when at 50% capacity, others do not. It depends on the catchment area and conservativeness of the design. Moreover, the requirement to "optimize" operations is vague and could place even compliant operations in violation because they were not "optimized". Finally, this provision, as worded, regulates the operation of a unit, not the pollutant output of a unit and EPA has no authority under the Act to do so. *See Iowa League of Cities,* 711 F. 3d at 877-878. Moreover, the fact that the sump is 50% or more full may be a basis for triggering a requirement to inspect more frequently. However, it should not be a violation when there is still significant capacity remaining in a unit, or even if a unit is full. The level of water in a sump cannot be grounds for violating the Act (or permit) as it does not involve a discharge or the improper operation of a unit, *per se*. We suggest that the 50% target be set as an example, not a rigid requirement applicable to all situations. The proposed language should be reworded to require that the permittee conduct "sufficient" inspections "to ensure proper operation of catch basins and sumps."

15. EPA's Incorporation By Reference of the New Hampshire Stormwater Manual is Improper

Section 2.3.6.3 of the Draft Permit would require that the municipal "ordinance or other regulatory mechanism be amended or modified within two (2) years of the effective date of the permit to require compliance with the design criteria set forth in the most recent version of the New Hampshire Stormwater Manual." Draft Permit, at 41. The New Hampshire Stormwater Manual is a huge three-volume document that is not a federal regulation nor was it adopted as a state regulation. First, it cannot appropriately be imposed as an NPDES permit requirement by reference. At a minimum, EPA would have to provide its own specific analysis of all provisions and conclude that compliance with such provisions are necessary to meet the requirements of the Act. No such analysis has been presented. Furthermore, even if it could be imposed, the permit could not appropriately require the permittee to meet a future revision which is not in existence as of the date of the issuance of the NPDES permit. As to these two issues, the federal regulations are clear:

> For a permit issued by EPA, an applicable requirement is a [federal] statutory or regulatory requirement (including any interim final regulation) which takes effect prior to the issuance of the permit.

40 C.F.R. § 122.43(b). As the New Hampshire Stormwater Manual is neither a federal regulation nor a statutory provision, it cannot be incorporated into an EPA-issued NPDES permit, whether an individual permit or a general permit.[28]

Furthermore, requiring the use of this manual can impose huge costs upon facilities to be managed by the MS4 entity. This is an example of costs that were not incorporated into EPA's cost estimates or by EPA's evaluation of the impacts under the RFA. This provision must be deleted from the permit.

Scientific Issues and Objections

1. Provisions in the Draft Permit Imposing Limits on Pollutant Loads Beyond Those Required to Comply with Surface Water Quality Criteria are Unnecessary

Part 2 of the Draft Permit addresses non-numeric effluent limitations deemed necessary to comply with New Hampshire's surface water quality standards. The New Hampshire water quality standards (Env-Wq 1700) are instream concentration values deemed necessary to protect the designated uses of the receiving water. Provisions in the Draft Permit that limit pollutant loads beyond those required to comply with the surface water quality criteria are unnecessary and should be deleted from the Draft Permit, including:

2.1.2.b.iii -- New or Increased Discharges to Impaired Waters

This provision provides that "[t]here shall be no new or increased discharges from the MS4 to *impaired waters* unless the permittee demonstrates that there is no net increase in loading from the MS4 to the impaired water of the pollutants(s) for which the waterbody is impaired." Draft Permit, at 14.

This requirement would, in essence, prohibit any new/additional flow of stormwater runoff regardless of the effluent concentration, as any measureable concentration would constitute an increase in the load. For instance, whenever the concentration in the MS4 discharge is less than the water quality standard, the discharge improves water quality in the impaired water body. Moreover, this restriction would apply even if the impairment is not stormwater related (*e.g.*, caused by conditions occurring during drought flows). Therefore, such discharges do not cause or contribute to an exceedance of the water quality standard and consequently should not be prohibited by this provision.

[28] We also note that EPA's imposition of the New Hampshire Stormwater Manual requirements upon municipalities and other entities, while exempting federal facilities from such requirements (*see* Draft Permit, at 58 § 5.2), is arbitrary and capricious.

Moreover, this requirement presumes that the discharge is beyond *de minimis* levels and is a significant cause of the impairment without any demonstration, as required by federal law and applicable NPDES rules, that this requirement is necessary to restore designated uses. There are certainly instances where an impairment source is identified (*e.g.,* CSO discharge of bacteria) whose limitation will bring the waters back into compliance. The fact that some other source is the cause of an impairment does not give EPA *carte blanche* to regulate all other sources.[29] This limitation should be deleted or, at a minimum, restricted to where EPA has determined that the MS4 is significantly contributing to the impairment.

2.2.1.b -- Discharges Subject to an Approved TMDL with a MS4 Wasteload Allocation

This provision provides that:

> For those TMDLs that specify a wasteload allocation or other requirements either individually or categorically for MS4 discharges, the permittee shall comply with the terms of Part 2.1 and 2.2 and satisfy the appropriate requirements of Appendix F. ... In addition ..., EPA may notify the small MS4 of the need to comply with additional requirements that are consistent with the assumptions and requirements of the Waste-Load Allocation (WLA).

Draft Permit, at 15. This requirement could impose significant BMP requirements for MS4 discharges that do not adversely influence the TMDL, particularly discharges that meet the New Hampshire water quality standards at end-of-pipe or discharges mitigated through the control of illicit discharges. In the latter case, the additional BMP requirements set forth in Appendix F should not be a requirement for compliance with the Draft Permit because the MS4 is already in compliance. Many of these TMDLs are seriously out of date or use TMDL derivation methods that do not comply with the CWA or implementing rules (*e.g.,* the methods do not determine the relative sources of the pollutants or document that a narrative criteria violation actually exists). Several of the TMDLs applied un-adopted standards to derive limitations. The permittees are seeking to revise/withdrawal these TMDLs and the proposed permit should acknowledge that if the TMDL is amended, the MS4 requirements are no longer applicable. (*See, e.g.* discussion below regarding the Statewide TMDL for Bacteria).

Finally, it is arbitrary and capricious for EPA to include a permit requirement allowing EPA to impose some as-of-yet unspecified condition without giving communities the opportunity to review the condition, comment on it, and, if necessary, appeal it. This violates the communities due process rights and is a form of self-executing permit modifications not allowed under the NPDES rules. Therefore, the final sentence of this section should be deleted.

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[29] Previously, in 2000, EPA sought to adopt such a provision amending permitting requirements for dischargers to impaired waters. EPA decided to forgo rulemaking and never adopted the rule modification. Therefore, it is inappropriate for EPA to seek to establish such an offset requirement for the MS4 community through a permitting action.

2.2.1.c -- Discharges Subject to an Approved TMDL without a MS4 WLA

This provision provides that for TMDLs that do not specify a WLA for the MS4 discharge, if EPA determines that the "MS4 discharge is causing or contributing to such impairment to an extent that cannot be explained by atmospheric deposition (e.g., chemical spill, acid landfill leachate or other sources), the permittee shall comply with the requirements of Part 2.1.1.c." Draft Permit, at 15-16. This requirement is unnecessary and completely unlawful. EPA does not possess statutory authority to unilaterally amend the conclusions of an approved TMDL, where an MS4 contributor was not identified as a significant component of the TMDL. Due process requirements apply to such actions and it is the State, not EPA that has the authority to set or amend TMDLs in the first instance. Moreover, any determination that the MS4 is causing or contributing to an impairment covered by a TMDL must be made through an amendment to the TMDL with the opportunity for public notice and comment.

2. For MS4s Subject to Approved TMDLs, it is Necessary to Demonstrate that the Receiving Waters are Actually Impaired and the MS4 is a Significant Contributor to the Impairment Before Imposing the Requirements in Appendix F

Small MS4s subject to an approved TMDL are subject to additional requirements specified in Appendix F (*e.g.*, bacteria TMDLs; phosphorus TMDLs). Prior to implementing the onerous additional requirements specified in Appendix F, the permit should allow for confirmation that the (1) receiving waters are actually impaired by the specific parameter and (2) that the small MS4 is a significant contributor. As draft EPA guidance[30] states it may be appropriate to revise or withdraw an approved TMDL when (1) changes in water quality standards leading to a determination that the water body is no longer impaired and (2) water that was incorrectly placed on the Section 303(d) List. Draft EPA Guidance, at 13. The Draft Permit should incorporate provisions (*e.g.*, an extended compliance schedule) that allow the permittee to evaluate whether either of these two situations apply to their receiving waters prior to imposing stringent BMP requirements on the permittee.

A number of the TMDLs referenced in the Draft Permit were all prepared under the *assumption* that the designated receiving waters were impaired. These impairment listings are not always accurate for a number of reasons. For example, waters may have been assessed as impaired due to a limited amount of data or unrepresentative data for the waterbody. Unidentified natural sources may have been responsible for the impairment listing but as no assessment occurred, the actual cause of the condition is unknown. Or, the listing may simply have been in error as was the case for the nutrient impairment listing for Paxton Creek in Pennsylvania (*i.e.*, the waters are simply not exhibiting a nutrient impairment). The Coalition has brought these issues to the attention of DES. The permit should provide an off-ramp that postpones compliance deadlines

[30] USEPA, Considerations for Revision and Withdrawing TMDLs: Draft for Review (Mar. 22, 2012), *available at* http://water.epa.gov/lawsregs/lawsguidance/cwa/tmdl/upload/Draft-TMDL_32212.pdf ("Draft EPA Guidance").

for the Appendix F requirements while the State reviews the available data to determine if the impairment listing is in error.

Additionally, EPA is simply presuming that the MS4 contribution is significant, not rendering a demonstration, as required by federal law and applicable NPDES rules, that the MS4 is a significant contributor. The Draft Permit also imposes a moratorium on any development that creates a new discharge or increased discharge, as illustrated by the requirement at Section 2.1.2.b.iii as discussed above. The additional BMP requirements in Appendix F focus on runoff as causing or contributing to the impairment. However, as part of this permit, the permittee must identify and correct prohibited non-stormwater discharges which may correct the impairment. Moreover, the impairment may be attributed to other point sources or even natural conditions.

There are several problems with EPA's proposed approach. First, EPA may not hold the MS4 discharger presumptively responsible for an impairment occurrence or require the MS4 to investigate the cause of such impairment. That is the responsibility of the State and EPA under CWA § 303(d). *See* 40 C.F.R. Part 130. In any case, the additional BMP requirements are not necessary and the permit should provide an off-ramp to exempt the permittee from compliance with Appendix F requirements if the TMDL does not identify the MS4 as a significant contributor. Alternatively, the off-ramp should also apply if the permittee can demonstrate that the TMDL improperly characterized the MS4 as a significant contributor or some other non-MS4 source is the root cause of a particular impairment condition. These presumptions must all be eliminated from the permit as inconsistent with the statutory framework and adopted rules. *See* CWA §§ 301(b)(1)(C), 303(d); 40 C.F.R. §§ 122.44(d), 130.7.

3. Water Quality Standards Need to be Based On Current Data and Be Formally Approved

Under federal law, a state is required to update its water quality criteria once every three years to reflect the latest scientific information. CWA Section 303(d). If the state fails to undertake such activity, EPA should step in and ensure that the standards are current. Such action ensures that CWA requirements are both necessary and sufficient to protect the environment. In New Hampshire, water quality standards for bacteria, chloride, and phosphorus are based upon either outdated data or are unapproved standards. The use of these TMDLs to declare the need for MS4 designation as significant contributors and significant MS4 load reductions needs to be reconsidered as the analyses underlying these TMDLs plainly does not conform to either state or federal law and regulatory requirements.

Bacteria

The statewide bacteria TMDL was derived to comply with the New Hampshire water quality criteria for *Escherichia coli* (*E. coli*). These bacteria standards were adopted in 1996 and include geometric mean and single sample maximum (SSM) concentrations to protect recreational uses in fresh waters. These criteria are seriously out of date, contrary to Section 303(c) mandates and

should be updated. Specifically, the SSM criteria presented in EPA's 1986 Ambient Water Quality Criteria for Bacteria were never intended to serve as water quality criteria but were intended to be used for beach closure notifications as EPA explained in its BEACH Act rulemaking. Many of the impaired waters were listed based on an exceedance of the SSM and not on an exceedance of the geometric mean. The cause of such occurrences was never assessed and it is simply impossible to tell whether the MS4 had anything to do with the condition. It is also impossible to claim that contact recreation uses have been impaired based on a single sample reading, such an approach is not accepted by the scientific community. If the bacteria standards are updated to reflect EPA's 2004 Implementation Guidance, many of the waters currently listed as impaired would be removed from the 303(d) list and therefore, would not need to comply with the additional requirements specified in Appendix F for discharges to bacteria-impaired waters.

Chloride

The New Hampshire water quality criteria for chloride is out of date. Env-Ws 1703.21 (860 mg/L acute, 230 mg/L chronic for nontidal, Class B waterbodies). Criteria similar to those adopted by Iowa[31] and Missouri[32] and approved by EPA Region V and VII (based on the most recent toxicity testing data) should be considered for New Hampshire.

Phosphorus

Lake and pond phosphorus TMDLs were derived for multiple water bodies in January 2011. The State does not have numeric water quality standards for phosphorus. Rather, Env-Wq 1703.14 provides that nutrients shall not be present in concentrations that would impair any existing or designated uses, unless naturally occurring. In addition, there shall be no new or increased discharges of phosphorus into lakes or that would contribute to cultural eutrophication. *Id.* In developing the TMDLs, this standard was translated into a numeric endpoint based on a supposed "weight-of-evidence" assessment based on reference conditions and trophic state classifications such that a chlorophyll-a concentration of 15 µg/L was not exceeded. Each TMDL used the same translator based on this single assessment regardless of lake size, depth or other features affecting the presence of algae and phosphorus in the system.

[31] *See* Attachment A- Iowa Department of Natural Resources, *Water Quality Standards Review: Chloride, Sulfate and Total Dissolved Solids* (Feb. 9, 2009) *available at* http://www.iowadnr.gov/portals/idnr/uploads/water/standards/ws_review.pdf.

[32] *See* 10 CSR 20-7.031(4)(A) Table A- Criteria for Designated Uses, *available at* http://www.sos.mo.gov/adrules/csr/current/10csr/10c20-7a.pdf.

The reference condition assessment is not appropriate for establishing a threshold for impairment as confirmed by US District Court for the Northern District of Florida[33] when it reviewed EPA's numeric nutrient criteria for Florida streams. At a minimum, the methodology used to establish the total phosphorus (TP) endpoint for all lakes should be reconsidered in light of the Court's ruling. Moreover, the establishment of a fixed TP criteria or maximum algal bloom levels applicable to all lakes plainly constitutes the adoption of new numeric criteria that should have undergone rulemaking, but did not. *See* Attachment B- EPA letter to the State of Florida dated June 27, 2013. TMDLs based on un-adopted criteria are not lawfully derived TMDLs.

Under state law, the specific factors influencing cultural eutrophication in lakes should have been considered using a conceptual model allowing for individual considerations for lakes with significantly different attributes that influence this response. None of these TMDLs appear to properly implement the applicable state law nor is it reasonable to claim that a narrative criteria violation exists simply because there are windblown algal mats (something that can occur naturally) in some corner of the lake that may or may not significantly affect swimming uses of the water body. It is not apparent how this condition can impair swimming or aquatic life uses. Likewise, the occurrence of short term algal growth above 15 µg/l is not indicative of cultural eutrophication as such conditions may occur in healthy ecosystems.

4. Additional Requirements for MS4 Discharges to Impaired Waters Without an Approved TMDL Are Improper Without a Demonstration that the Receiving Water is Impaired and the MS4 is a Significant Contributor.

Small MS4s discharging to impaired waters without an approved TMDL are subject to additional requirements in Section 2.2.2 of the Draft Permit and Appendix H. The application of these additional requirements is predicated on the assumption that the receiving waters are, once again, in fact impaired and that the MS4s are significant contributors to the impairment. Again, like discussed above, this presumption is not authorized by federal law. The federal program does not establish a "guilty until proven innocent" framework. Moreover, as discussed above, if either of these assumptions are shown to be incorrect, the additional requirements specified in Section 2.2.2 should be waived.

The additional requirements specified in Appendix H for municipalities within the Great Bay Estuary watershed should be removed from the Draft Permit as they are unnecessary. The nitrogen impairment designation for this watershed is being contested by the Great Bay Municipal Coalition, as well as the 303(d) listing.[34] The nitrogen impairment designation was

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[33] *Florida Wildlife Federation, Inc. et. al. v. Jackson*, Case 4:08-cv-00324-RH-WCS, Doc. 351 (N.D. Fla. February 18, 2012).

[34] DES recently submitted its final 2012 303(d) List to EPA for approval. *See* Attachment C- New Hampshire Department of Environmental Services, *Final 2012 303(d) Surface Water Quality List Submitted to EPA* (July 19, 2013). Virtually all the listings indicate the impairment source is unknown and at many of the locations multiple

based on the New Hampshire Department of Environmental Services 2009 draft document entitled "Numeric Nutrient Criteria for the Great Bay Estuary." ("2009 Draft Criterion"). This document was never adopted as a final criterion or approved by EPA as required under CWA Section 303(c). Moreover, the Great Bay Municipal Coalition has provided ample documentation to show that the Estuary is not nitrogen-impaired and the 2009 Draft Criterion is not scientifically defensible. *See In re Town of Newmarket*, EAB Appeal No. NPDES 12-05 (Dec. 14, 2012), *available at* http://go.usa.gov/4yYR; Attachment D- Affidavit of Dr. Steven Chapra. The loss of eelgrass in the Great Bay system is tied to a major meteorological event not nutrient impairment. University of New Hampshire experts familiar with the system indicated that studies did not confirm nitrogen was the cause of eelgrass declines or low DO in the tidal rivers. (Attachments E and F- Letters to/from Drs. Richard Langan Stephen Jones; Attachment G- 2013 Piscataqua Region Estuaries Partnership State of the Estuaries Report)). EPA cannot ignore all of this readily available information in issuing this draft permit. *See generally* 40 C.F.R. § 122.44(d). This matter is currently scheduled to undergo a scientific peer review and it would be arbitrary and capricious for the Agency to impose the Appendix H requirements before this issue is resolved or to fail to respond to the specific information showing that MS4 nutrient contributions from the communities is not the factor controlling eelgrass populations or the transparency level found in the Great Bay system.

5. Before Imposing Additional Requirements on MS4s Discharging to Impaired Waters, an Assessment on Whether the Receiving Waters are Impaired for the Particular Parameter in Question Needs to Be Conducted

The Draft Permit presumes that controls beyond the standard requirements are necessary for MS4s discharging into impaired waters. This assumption needs to be assessed before municipalities are forced to implement expensive controls. In assessing whether the receiving waters are impaired for the particular parameter in question, the factors that should be considered include whether the data exhibit existing water quality standard exceedances, the amount of data available, the age of the data, the return frequency of any observed exceedances, and whether the impairment status will change if the criteria are updated. Thus, the following factors must be assessed before MS4 provisions and additional requirements are imposed:

Existing Water Quality Standard Exceedances

The provisions of 40 C.F.R. § 122.44(d) mandate that permit decisions for more restrictive water quality based limits be based on current data and facility performance. In some cases, impaired water listings in New Hampshire are based upon outdated data and the impairment listings need to be updated to reflect current conditions. For example, data collected prior to 2003 may not

parameters are impaired including unusual toxics. EPA's approach would entail detailed testing and analyses of all of the parameters listed in the DES 2012 303(d) list by assuming the MS4 is a significant contributor.

reflect the current conditions in the receiving water since municipalities have implemented requirements under the 2003 General Permit and may have implemented additional CSO controls, other collection system improvements, or mitigated illicit discharges. Therefore, the impairment listings do not reflect the waters current condition. The status of the receiving water should be confirmed before needless BMPs are implemented or small communities are subject to Draft Permit provisions.

Insufficient Data

The available data, upon which the original assessment was made or upon which a current assessment is being considered, must be sufficient to confirm that an impairment actually exists. This is particularly a concern for parameters with an extended averaging period (*e.g.*, bacteria – 60 day averaging period for the geometric mean; nutrients – typically considered a growing season average). If the available data are over-represented by wet weather conditions, the resulting impairment assessment will not reflect ambient conditions for the relevant averaging period of the criteria.

Age of Data

The data upon which impairment assessments are made must reflect current conditions to characterize existing conditions, particularly where point sources have been mitigated or where stormwater management practices have been implemented. 40 C.F.R. § 122.44(d)(2). If the only available data is five years or older or if there significant watershed improvements have been made, then current data must be obtained to confirm that impairments still exist before additional BMP requirements are imposed.

Return Frequency

Water quality criteria are based on magnitude, duration, and frequency of exceedances. Individual exceedances of the magnitude and duration components of a water quality standard are acceptable provided the return frequency of these exceedances does not exceed once in three years on average. The impairment assessment data must be sufficient to demonstrate that the return frequency of the water quality criterion is exceeded before declaring waters impaired. If these data are not available, additional data must be collected before additional BMP requirements are imposed.

6. Before Imposing Additional Requirements on MS4s Discharging to Impaired Waters, An Assessment of Other Factors Which May Significantly Contribute to the Impairment Needs to Be Conducted

If the waters are confirmed to be impaired, an assessment must be made to determine whether stormwater runoff is significantly causing or contributing to the impairment and whether the targeted BMPs will address this impairment. Definitive answers may not always be available, and prudence suggests that before extra BMPs be implemented, an "adaptive management" approach be used to confirm whether such controls will address the existing impairment. However, where data is available, it should be used to decide whether the extra BMPs must be implemented. This information can include data demonstrating that the observed impairment is due to natural conditions, or that the impairment is caused by point sources (non-MS4 sources), illicit discharges through MS4s, or non-MS4 runoff. Thus, the following issues must be assessed before MS4 provisions and additional requirements are imposed:

Natural Conditions

Surface waters are not considered to be impaired if the water quality criteria exceedances are due to natural conditions. For example, Env-Wq 1703.21(a) (Water Quality Criteria for Toxic Substances) provides, "*[u]nless naturally occurring* or allowed under part Env-Wq 1707, all surface water shall be free from toxic substances or chemical constituents ..." (emphasis added). This consideration applies to all waters of the state and, in particular, to the following parameters: aluminum (natural weathering), bacteria (warm-blooded animals), dissolved oxygen (natural hydrodynamic conditions), and nutrients (natural weathering, seasonal leaf litter). A water quality criteria exceedance and therefore, an impairment, cannot be caused by a natural condition.

Point Sources

If an impairment is caused by a point source discharge and could be mitigated by point source control, then the extra MS4 BMPs referenced in Section 2.2 of the Draft Permit are unwarranted and should not apply. In this case, point sources include failing septic systems.

Illicit Connections/Other Sources

If an impairment is due to an illicit discharge through the MS4, the Draft Permit already includes ample provisions for addressing illicit discharges (*i.e.,* Section 2.3.4) and the extra MS4 BMPs referenced at Section 2.2 are not warranted. Similarly, if other sources are identified and control of these sources is sufficient to restore compliance with the State water quality criteria, the extra BMPs would not be warranted.

Non-MS4 Runoff

Runoff from agricultural fields that have been fertilized with manure can yield exceedingly high concentrations of *E. coli*. The extra MS4 BMPs referenced at Section 2.2 cannot mitigate agricultural runoff; consequently, imposition of these extra BMPs is not warranted.

7. With Regards to the Bacteria Water Quality Standard, it is Unclear How the Determination that a MS4 is Causing or Contributing to an Exceedance of the Bacteria Standard Will be Made

The Draft Permit does not specify how the determination that a MS4 is causing or contributing to an exceedance of the bacteria standard will be made. The Draft Permit subjects permittees to additional requirements for limiting the discharge of *E. coli* under Part 2.2 of the Draft Permit. *See* Part 2.2.1 – Requirements to Meet Water Quality Standards; Part 2.2.1 – Discharges Subject to an Approved TMDL; Part 2.2.2 – Discharge to an Impaired Water without an Approved TMDL. Part 2.1.1(c) provides that if the permittee, EPA, or the State determines that a discharge causes or contributes to an exceedance of the water quality standard, the permittee must eliminate the cause of the exceedance or develop a Water Quality Response Plan ("WQRP") pursuant to Part 2.2.2. The WQRP identifies additional or modified BMPs that will be implemented to ensure that the MS4 does not cause or contribute to the impairment.

The following comments are based on the assumption that the agency will use the Statewide TMDL for Bacteria (September 2010) ("Bacteria TMDL") to make such determinations. The Bacteria TMDL is thoroughly confusing and is an inconsistent document. The Bacteria TMDL makes no demonstration showing that MS4 control is necessary to achieve compliance with the applicable bacteria water quality standards or that the allocations in the TMDL will result in compliance. In fact, the approved TMDL specifically states that instream water quality, not an end-of-pipe limitation, will control whether or not the criteria are achieved. Bacteria TMDL, at 35.

Additionally, the Bacteria TMDL failed to undertake basic TMDL assessments such as identifying the sources of the impairment prior to deriving a regulatory approach, considering the fate or transport, and considering available dilution. Consequently, the document never should have been accepted by DES or approved by EPA. Recognizing these deficiencies, the TMDL does not set specific effluent limitation requirements:

> The underlying assumption in setting a concentration-based TMDL for bacteria is that if all sources are less than or equal to the WQS, then the concentration of bacteria within the receiving water will attain WQS. This methodology implies a goal of meeting bacteria standards at the point of discharge for all sources. Although end of pipe bacteria measurements can identify and help prioritize sources that require attention, compliance with this TMDL will be based on

> ambient water quality and not water quality at the point of discharge (*i.e.*, end of pipe).

Bacteria TMDL, at 35 (emphasis added). This is a facially deficient TMDL.

As stated above, the TMDL was developed without an allowance for dilution, but compliance will be evaluated based on ambient water quality, which factors in dilution. This inconsistency is reiterated in Appendix F of the Draft Permit.

> The WLA for MS4 discharges is set at the relevant water quality standard, although compliance with the TMDL will be based on ambient water quality and not water quality at the point of discharge (i.e., end of pipe).

Draft Permit Appendix F, at 5. Given that the intent of the TMDL and the permit is to determine compliance via ambient measurement, dilution and die-off can and should be considered in determining whether an MS4 discharge causes or contributes to a bacterial impairment. Contrary to the assessment that the TMDL provides high confidence in compliance with water quality standards, the TMDL never addressed the actual source of bacteria causing the apparent impairment. Consequently, the need to regulate MS4s is not demonstrated. More importantly, load allocations applicable to wildlife waste, agricultural runoff, and contact recreation cannot be limited in the manner perceived by this TMDL. Without some demonstration that these sources are not responsible for the impairment, it is unclear if the Statewide TMDL for Bacteria will achieve its goal of restoring designated uses for contact recreation.

The objective of a TMDL is not to prevent a discharge from "causing or contributing" to a condition; it is to achieve the applicable standard. The "cause or contribute" prohibition does not exist under either CWA § 303(d) or any rule applicable to existing discharges to impaired waters. This is only a prohibition to new dischargers to impaired waters (40 C.F.R. § 122.4(i)). Thus, EPA applied the wrong regulatory regime to the development of these MS4 requirements.

Finally, the Draft Permit indicates that the WQRP must include a public education and "pooper scooper" program, increased street sweeping, and an Illicit Discharge program (already required by 2003 General Permit). As part of the Illicit Discharge program, catchments draining to the TMDL waters must be designated either Problem Catchments or High priority for implementation of the Illicit Discharge Detection and Elimination program. Again, these requirements may only be reasonable if MS4 control is necessary to restore the designated use, but the Statewide Bacteria TMDL made no such determination. That is a required demonstration for EPA or the State, not for EPA to transfer to the MS4 community. These requirements are arbitrary and should only be imposed where determined necessary.

8. The Water Quality Criteria for Bacteria is Out of Date and Needs to be Updated

The New Hampshire primary contact recreation water quality standards for bacteria were promulgated in 1996, and are out of date. The bacteria criteria for New Hampshire state waters are specified in Section 485-A:8 (Standards for classification of surface waters of the State), as follows:

Class	Use Type	Bacteria Type	Geometric Mean	Single Sample
A	Beach	*E. coli*	47	88
A	Non-beach	*E. coli*	47	153
B	Beach	*E. coli*	47	88
B	Non-beach	*E. coli*	126	406
Tidal	all	Enterococci	35	104

The geometric mean criteria for bacteria specified in Section 485-A:8 for Class B and tidal waters are the same criteria developed by USEPA under the 2004 Beach Environmental Assessment and Coastal Health (BEACH) Act, which are identical to EPA's 1986 ambient water quality criteria for bacteria. *See* 69 Fed. Reg. 67,218 (Nov. 16, 2004). These criteria were established to provide public health protection equivalent to the existing fecal coliform water quality objectives (0.8% risk in freshwater and 1.9% risk in marine waters of gastrointestinal illness to swimmers from the inadvertent ingestion of 100 ml of water through body contact recreation) originally recommended by EPA in 1986. *See id.* at 67,220, 67,233.

The 1986 EPA water quality criteria for bacteria provided geometric mean density criteria for freshwater enterococci (33/100 mL), freshwater *E. coli* (126/100 mL), and marine enterococci (35/100 mL) as well as four different SSM values for each criterion. As indicated above, the DES has adopted the freshwater *E. coli* and marine enterococci geometric mean water quality standards.

The SSM values presented in the 1986 criteria and in the BEACH Act represent a continuum along a statistical distribution, for a standard deviation of 0.4 in freshwater and a standard deviation of 0.7 in marine waters, that was developed to provide public health officials with a tool for making informed decisions to open or close beaches based on a limited amount of data. That continuum for each criterion was defined as:

E. coli (freshwater) $$SSM_P = 10^{(\log_{10}(126)+0.4Z_P)}$$ [1a]

Enterococci (marine waters) $$SSM_P = 10^{(\log_{10}(35)+0.7Z_P)}$$ [1b]

where:

SSM_P = single sample maximum allowable density for indicated probability, P

Z_P = factor determined from areas under normal probability curve for the assumed level of probability, P

P = level of probability

The SSM in Section 485-A:8 for Class B, non-beach waters identify the bacteria concentrations approximately associated with the 90th percentile of the distribution of *E. coli* identified by EPA for fresh waters. The SSM for Tidal waters is the 75th percentile of the distribution for Enterococci identified by EPA for marine waters. As noted by EPA, application of the SSM values to generate daily maximum limitations in an NPDES permit would result in regulating *E. coli* or Enterococci in a manner far more restrictive than intended by the water quality standard:

> Other than in the beach notification and closure decision context, the geometric mean is the more relevant value for ensuring that appropriate actions are taken to protect and improve water quality because it is a more reliable measure, being less subject to random variation, and more directly linked to the underlying studies on which the 1986 bacteria criteria were based.

69 Fed. Reg. 67,224 (Nov. 16, 2004).

> The single sample maximum values in the 1986 bacteria criteria were not developed as acute criteria; rather they were developed as a statistical construction to allow decision makers to make informed decisions to open or close beaches on small data sets … single sample maximums were not designed to provide a further reduction in the design illness level provided for by the geometric mean criterion … Based on the derivation of the single sample maximums as percentiles of a distribution around the geometric mean, using the single sample maximums as values not to be surpassed for all Clean Water Act applications, even when the data set is large, could impart a level of protection much more stringent than intended by the 1986 bacteria criteria document.

69 Fed. Reg. 67,225 (Nov. 16, 2004).

If the SSM is used as a "not to exceed" value, as it is in the existing DES criteria, it would impose a level of protection far more stringent than that intended by EPA to protect contact recreation uses. For example, EPA typically uses the 99th percentile of a distribution (Z_P = 2.326) to assess compliance with regulatory maximums. Equation [1a] may be used to back calculate the actual geometric mean needed to keep a receiving water concentration below the *E. coli* maximum value of 406 colonies/100 ml, assuming the same standard deviation (0.4) employed by EPA in deriving the national criteria. For this case, the corresponding geometric

mean is 48 colonies/100 ml. This geometric mean is far more stringent than the level of protection provided by the actual geometric mean criterion – 126 colonies/100 ml. Similarly, for enterococci, the maximum concentration of 104 colonies/100 mL is equivalent to a corresponding geometric mean of 2.4 colonies/100 mL while the actual geometric mean criterion is 35 colonies/100 mL.

The geometric mean indicator density for *E. coli* in fresh water and enterococci in marine waters are based on Equation [2a] and Equation [2b], respectively.

freshwater $$E.coli = 10^{(I+11.74)/9.40} \quad [2a]$$

marine waters $$Enterococci = 10^{(I-0.20)/12.17} \quad [2b]$$

where:

E. coli = geometric mean E. coli density (colonies/100 ml)
Enterococci = geometric mean Enterococci density (colonies/100 ml)
I = illness rate per 1,000 people

See 69 Fed. Reg. 67,221 (Nov. 16, 2004). Solving Equation [2a] for a geometric mean of 48 colonies per 100 ml yields an illness rate of 4.0 per 1000 people. This level of protection is double the acceptable swimming associated gastroenteritis rate (8 per 1,000 people) targeted by EPA. Similarly, solving Equation [2b] for a geometric mean of 2.4 colonies per 100 mL yields an illness rate of 4.9 per 1000 people. This represents a level of protection approximately 300% greater than the target rate of 19 per 1,000 people, assuming application of the criteria as a daily maximum is appropriate at all. As demonstrated above, the current DES water quality standard is much more restrictive than the underlying EPA standard, without any rationale supporting the more restrictive requirements.

Additionally, EPA's guidance on coordinating CSO requirements with water quality standards[35] does not support such an approach and makes recommendations for reconciling the two requirements. In providing this guidance, EPA intended that states integrate water quality standards reviews, implement high-priority CSO controls, and develop Long Term Control Plans that support attainment of water quality standards without causing substantial and widespread economic and social impacts. This integration would include a review of state water quality standards and revision as appropriate to ensure that the applicable water quality standards are attainable. The guidance notes that, depending upon the CSO impacts, possible water quality standard revisions could include:

[35] Guidance: Coordinating CSO Long-Term Planning with Water Quality Standards Reviews. 2001. EPA-833-R-01-002. (CSO Guidance).

1. Applying the *Ambient Water Quality Criteria for Bacteria – 1986* (*i.e. E. coli* or enterococci) at the beach or at the point of contact rather than at the end-of-pipe or at the edge of the mixing zone where permits may require compliance with other criteria;

2. Segmenting the water body to preserve recreation in areas where it actually occurs;

3. Revising the use by creating subclasses to recognize intermittent exceedances of bacteriological criteria.

CSO Guidance, at 5. At a minimum, the bacteria standards should be revised to incorporate the most recent, promulgated criteria and their proper application. Alternatively, every MS4 could file a site-specific request to ensure the proper application of the criteria.

9. The Water Quality Criteria for Bacteria Needs a Specified Return Frequency

Water quality criteria consist of three components: (1) magnitude, (2) duration and (3) frequency.[36] A typical frequency component requires that the magnitude and duration components are not exceeded more frequently than once every three years on average. The criteria presented in Section 485-A:8 present the magnitude (the allowable concentration) and duration (averaging period) components, but is silent regarding the frequency (how often criteria can be exceeded) component.

The 2012 Section 305(b) and 303(d) Consolidated Assessment and Listing Methodology (2012 CALM) presents Use Support Matrices for Bacteria that shed light on the frequency component used by the State. The Use Support Matrix for Bacteria (Primary Contact Recreation) (Table 3-19 of the CALM) indicates that the primary contact recreation designated use is not supported if there are one or more exceedances of the geometric mean criterion and/or two or more exceedances of the SSM criterion.

This interpretation of the New Hampshire water quality criteria is more stringent than the "once in three years on average" frequency typically used by water quality criteria. However, this basis is predicated on an assessment of the most recent full calendar year of data (or years if there was insufficient data in the most recent year to make an assessment). To be fully supporting the designated use, there must be sufficient data to make an assessment during the peak contact recreation season (May 24 – September 15).

The bacteria criteria should be revised to incorporate a return frequency consistent with the CWA requirements and EPA Guidance. Likewise a seasonal application of such standards is appropriate as contact recreation is not possible during cold periods when hypothermia would

[36] *See* EPA Technical Support Document for Water Quality-based Toxics Control (1991), at 32.

occur from swimming. Swimming during major storms with dangerous currents should also not be assumed and elevated bacteria under those conditions should not constitute an impairment since the use cannot physically exist under those conditions. At a minimum, impairment listings should be based on three consecutive years of data with at least one geometric mean during the peak contact recreation season exceeding the applicable criteria.

10. The Impairment Listings for Bacteria are Suspect

Data supporting the impairment listings for the statewide Bacteria TMDL were provided in the appendices with the TMDL. One of these appendices (Appendix H) was reviewed to assess whether the impairment listing was reasonable given the general considerations identified above and the specific concerns with the bacteria water quality standard. Data supporting the impairment listings for the Merrimack River Watershed were presented in Appendix H of the Statewide Bacteria TMDL. This appendix presents data for 81 Assessment Units (AUs) that are considered impaired. The first 15 of these AUs were reviewed and the results are summarized below.

AU	Beach	Period of Record	Number of Exceedances		Comments
			GM	SSM	
H1	Yes	1998-2007	0	2	No exceedances after 2003
H2	No	2002-2007	0	2	No exceedances in 2007
H3	No	2000	1	2	Insufficient data
H4	No	2001	1	1	Insufficient data
H5	No	2002-2003	1	1	Insufficient data
H6	No	2000	1	1	Insufficient data
H7	No	2000	1	1	Insufficient data
H8	No	2002-2007	2	2	Exceedances in 2007 only
H9	No	2002-2007	0	2	1 dry, 1 wet weather exceedances
H10	No	2002-2007	0	2	1 dry, 1 wet weather exceedances
H11	Yes	1998-2007	0	8	Localized exceedances
H12	Yes	1998-2005	0	3	Localized, low level exceedances; No exceedances after 2001
H13	Yes	2002-2007	0	4	Localized, low level exceedances
H14	No	2004-2007	0	3	High level exceedances
H15	No	2000-2007	0	9	No exceedances after 2004

- AU H1 (Sondogardy Pond) and H2 (Merrimack River) have sufficient data in the last year of record to confirm full use support. The data for AUs H3 – H7 are insufficient to make any decision on impairment. Even if the available data for these sites show highly

elevated levels of bacteria, the data are over 10 years old and management practices implemented with the 2003 General Permit may have resolved the old impairment issues. Updated data is required to confirm the impairment status of these AUs.

- AU H8 (The Merrimack River – Garvins Falls) exhibited two exceedances of the geometric mean and SSM criteria over a six year period of record. Since this site is not a beach, the SSM criteria should not be applied (consistent with EPA BEACH Act recommendations). The remaining two geometric mean exceedances fall within the once-in-three-year allowable exceedances frequency, suggesting that this site is not impaired. Moreover, the only two high bacteria readings (3,250, 460 CTS/100 mL) occurred during dry weather, suggesting that stormwater BMPs would not be effective in reducing bacteria levels.

- AU H9 (Merrimack River) and H10 (Merrimack River – Garvin Falls Bypass) each exhibited two exceedances of the SSM criterion. Both AUs are not beach areas and the SSM should not be applied. If the SSM does not apply, these AUs would be considered fully supporting designated uses. Even with application of the SSM criterion, the observed exceedances do not surpass the acceptable exceedances frequency, indicating that the site is not impaired.

- AU H11 (Crystal Lake – Town Beach) is a beach and it has experienced 8 SSM criterion exceedances over the 10-year period of record. None of the exceedances were reported under wet weather conditions (although this condition was seldom reported). The monitoring data was reported for the left, center, and right sides of the beach with several of the exceedances localized to one section of the beach. This pattern is consistent with a natural cause (*i.e., E. coli* shedding from bathers). No data was presented to suggest that stormwater runoff contributes to these exceedances or that the additional BMPs contained in Appendix F will have any effect on the impairment listing.

- AU H12 (Upper Suncook Lake – Camp Fatima Beach) is a beach with 3 reported SSM criterion exceedances over an 8 year period. There have been no exceedances reported since 2001, although the lake was only sampled twice in 2002, 2004, and 2005, with a high *E. coli* level of only 8 CTS/100 mL in these three years. Monitoring data were reported for the left and right sides of Camp Fatima with SSM exceedances only reported on one side or the other, but not both. As discussed above, this pattern is consistent with a natural cause (bathing). This AU should not be subject to a TMDL given the limited record, lack of any exceedances in the last three years of sampling, and the possible natural cause of the older exceedances.

- AU H13 (Berry Pond Brook – Town Beach) is a beach with 4 reported SSM criterion exceedances over the 6 year monitoring period. Measurements are made at the left, center, and right of the recreation area of the beach. *E. coli* concentrations have been reported at low levels during wet weather conditions with only one cluster of SSM exceedances (left, center, and right sides on a single day) reported in the last two years of record. These observations suggest a natural source of contamination (*e.g.,* bathing) and, along with the wet weather data, suggest that stormwater control will have no effect on conditions in the lake.

- AU H14 (Jenness Pond) is not designated as a beach. The record includes 6 observations in 2004, 7 observations in 2005, and a single observation in 2007. There were three SSM criterion exceedances in 2004-2005, with one exceedance reported at 23,300 CTS/100 mL. No information is presented on the weather conditions (wet or dry) associated with these observations, but the station name included in the Appendix suggests that a horse farm is located adjacent to the pond. The data is sparse and new data should be collected to assess the impairment status of the pond. Even so, these data do not suggest that a "pooper scooper" program will have a significant effect on bacteria levels in this pond.

- AU H15 (Northwood Lake) is not designated as a beach. The record includes 8 years of data, with adequate monitoring to assess the geometric mean in 2002 and 2004 – 2007. There were no reported geometric mean exceedances and the SSM criterion was exceeded 4 times in 2002 and 5 times in 2004. No additional exceedances were reported in the last three years of monitoring. This lake should not be listed as impaired.

Based on this summary, virtually all 15 AUs should be removed from the impaired waters list. For some, the data clearly indicates that primary contact recreation use is not impaired. For others, there is clearly not enough data or recent data upon which a determination of impairment can be made. Regardless of the impairment listing, there is no data presented to determine whether MS4s cause or contribute to exceedances of the bacteria standard and there is no factual basis to conclude that the MS4 communities are significantly contributing to use impairment. The impairment listings for these AUs should be revisited and the other impairment listings should be reviewed to determine whether they suffer from the same deficiencies. In any event, it is apparent that the mere listing of a water body as impaired is not substantial evidence or legally sufficient to conclude that (1) a more restrictive MS4 permit should be imposed or (2) that the community is causing or contributing to the condition. The provisions of the proposed permit that are based on such assumptions are plainly arbitrary and capricious and should be withdrawn.

With regards to EPA's or the State's determinations under Part 2.2.1(c) of the Draft Permit, the type of assessment included in the Bacteria TMDL is also not sufficient to render any type of defensible determination that further MS4 corrective measures or regulatory controls are necessary to ensure standards compliance. Before these conditions are imposed, the source of *E.*

coli contamination must be determined to ensure that MS4 control is necessary to maintain the primary contact recreation use with consideration for dilution and die-off, as intended by the TMDL.

11. The Bacteria Water Quality Criterion is An Inappropriate Threshold for Evaluating Illicit Connections

Throughout the Draft Permit there are references to the use of sampling data to assess whether illicit connections are present. *See, e.g.,* Draft Permit, at 32. This screening includes analyses for bacteria, with bacteria levels in excess of the water quality criteria serving as an indicator of a potential sanitary connection. The water quality criterion is an inappropriate threshold for evaluating illicit connections to sanitary wastewater and there is no justification presented in the Draft Permit that would support such a low level of bacteria as indicative of illicit connections. This appears to be yet another unsupported regulatory presumption (*i.e.,* if a criteria is exceeded, presume the MS4 is the source and require a study of that system). EPA should look to state policy applicable on this issue, prior to imposing its own approach, as required by 40 C.F.R. § 122.44(d). An appropriate bacteria concentration to indicate a potential sanitary connection is >2,000 cts/100 mL. *See* 2012 CALM, at 37.

12. MS4s Should Not be Responsible for Deicing Activities They Do Not Control and Communities Should Not Have to Sacrifice the Safety of Their Citizens for Fear of Causing or Contributing to a Chloride Impairment

The Draft Permit subjects permittees to additional requirements for limiting the discharge of chloride under Part 2.2 of the draft permit. *See* Part 2.1.1 – Requirements to Meet Water Quality Standards; Part 2.2.1 – Discharges Subject to an Approved TMDL; and, Part 2.2.4 – Discharge to Chloride-Impaired Waters. Part 2.2.1(d) requires permittees subject to an approved TMDL for chlorides to meet the requirements specified in Appendix F. Part 2.2.4 requires municipalities with MS4s located in areas with chloride-impaired waters without a TMDL to comply with the requirements specified in Appendix H. These requirements are technically flawed as each TDML will provide the basis for knowing whether or not MS4 activities are significant (as opposed to regional highway and road authorities). The MS4 community may not be held responsible if it is not the party controlling deicing activities. Moreover, assuming BMPs are required, without assessing the need for and causes of the alleged chloride impairment is legally and technically deficient. Under such circumstances, there is no scientifically defensible basis for choosing and imposing BMPs.

The BMPs specified in Appendix F and Appendix H are essentially identical, which effectively imposes mandatory BMPs whenever chloride is identified as an issue in downstream waters. For waters identified as exceeding the applicable water quality criteria (860 mg/L acute; 230 mg/L chronic), the permittee is required to develop and implement a Salt Reduction Plan. The Salt Reduction Plan includes requirements for surfaces maintained by the municipality as well as

requirements for private areas that drain to the MS4s. Many of these requirements seem reasonable, particularly those practices geared toward preventing the over-use of deicing salts. However, public safety cannot be compromised in an effort to mitigate criteria exceedances as provided in the recommended BMPs, especially when the extent of a communities' contribution to the alleged chloride impairment is unknown.

For example, the draft permit calls for the development of Salt Reduction Plans that call for the designation of "no salt" and "low salt" zones. While such designations may be acceptable under typical road conditions, these designations cannot serve as a prohibition on salt use should road conditions become treacherous or beforehand, to prevent that condition. Similarly, public education on the impacts and use of salt on private property is reasonable, but does not ensure that salt loads will be reduced from these sources. Public education on modifications to driving behavior in winter weather is not a substitute for safe driving conditions. In any event, the mandatory application of BMPs must be tied to demonstrated, not presumed needs. CWA § 301(b)(1)(C).

13. The Water Quality Criteria for Chloride is Outdated

The New Hampshire aquatic life water quality criteria for chloride at Env-Wq 1703.21 was based on the original recommendations made by EPA in 1988, using the procedures specified in the 1985 Guidelines for Deriving Numerical National Water Quality Criteria for the Protection of Aquatic Organisms and Their Uses. The 1988 Criteria are based on an evaluation of very limited toxicity test data. Since the 1988 recommendations, the database for the toxicity of chloride to aquatic organisms has expanded greatly to include additional organisms, allowing for the 1988 criteria to be recalculated in accordance with CWA requirements to reflect the latest scientific information. EPA has approved updated standards in several states, as required by Section 303(c) and 304(a) of the Act.

Other states have upgraded their water quality standard for chloride using the latest science, which indicates that chloride toxicity is a function of hardness and sulfate concentration. For example, the Iowa Department of Natural Resources (IDNR) published a water quality standards review for chloride in February 2009.[37] Similar criteria were also adopted by the State of Indiana and approved by EPA in 2012.[38] This review presented the new data obtained since the original chloride criterion was developed by EPA in 1988. As part of the effort, IDNR working together with EPA, performed a literature search to update and recalculate the 1988 acute and chronic chloride criteria based upon new toxicity data deemed acceptable following the 1985

[37] Iowa Department of Natural Resources, *Water Quality Standards Review: Chloride, Sulfate and Total Dissolved Solids* (Feb. 9, 2009) *available at* http://www.iowadnr.gov/portals/idnr/uploads/water/standards/ws_review.pdf.

[38] *See* 327 IAC 2-1-6(a)(5) *available at* http://www.in.gov/legislative/iac/T03270/A00020.PDF.

EPA Guidelines. Subsequently, IDNR adopted and EPA approved revised aquatic life criteria for chloride based on hardness and sulfate concentration. [39]

$$CMC = 287.8(Hardness)^{0.205797}(Sulfate) - 0.07452$$

$$CCC = 177.87(Hardness)^{0.205797}(Sulfate)^{-0.07452}$$

The revised chloride criteria are equivalent to an acute criterion of 629 mg/L and a chronic criterion of 389 mg/L for a hardness concentration of 200 mg/L (as $CaCO_3$) and a sulfate concentration of 63 mg/L (default values used by Iowa in Table 1). Missouri has also adopted the same aquatic life criteria for chloride.[40]

The two other adjacent, downstream states (Wisconsin and Illinois) also have updated water quality criteria for chloride; however, these criteria are not dependent on hardness or sulfate. Wisconsin updated its aquatic life water quality criteria for chloride in 2000 based on an evaluation of new data and used the 1985 Guidelines approach for criteria development.[41] The revised acute water quality criterion for chloride is 757 mg/L and the chronic criterion is 395 mg/L.[42] Illinois has a chronic chloride water quality criterion of 500 mg/L.[43]

States are supposed to update criteria to reflect the latest scientific information. CWA §§ 304(a), 303(c). The need for enhanced BMPs to control chloride loads to impaired waters should be evaluated against the updated criteria to assess whether the proposed controls are necessary. In any event, EPA should encourage New Hampshire to adopt updated, revised criteria and defer implementation of the proposed BMPs in waters that are not impaired based upon the updated criteria. Relying on outdated standards misdirects and wastes local resources and is inconsistent with the requirements of the Act.

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[39] *See* IAC 567-61.3(3) Table 1- Criteria for Chemical Constituents, *available at* https://www.legis.iowa.gov/DOCS/ACO/IAC/LINC/Chapter.567.61.pdf.

[40] *See* 10 CSR 20-7.031(4)(A) Table A- Criteria for Designated Uses, *available at* http://www.sos.mo.gov/adrules/csr/current/10csr/10c20-7a.pdf.

[41] *See* Attachment H - Jim Schmidt, WDNR, *Derivation of Acute and Chronic Toxicity Criteria for Chloride* (Jan. 2000), *available at* http://www.epa.gov/gliclear/pdfs/wi_al_134_01012001.pdf.

[42] *See* WDNR NR 105.06, Table 1- Acute Toxicity Criteria for Substances with Toxicity Unrelated to Water Quality and Table 5- Chronic Toxicity Criteria Acute- Chronic Ratios for Substances with Toxicity Unrelated to Water Quality, *available at* http://dnr.wi.gov/topic/SurfaceWater/codes/nr105.pdf.

[43] *See* 35 Ill. Adm. Code 302.208(g)- Illinois Numeric Standards for Chemical Constituents, *available at* http://www.ipcb.state.il.us/documents/dsweb/Get/Document-33354/.

14. The Phosphorus Endpoint is Not Scientifically Defensible

Appendix F to the Draft Permit specifies that the permittees subject to phosphorus TMDLs must prepare a Phosphorus Control Plan (PCP) and demonstrate compliance with the TMDL through implementation of structural and non-structural BMPs. The phosphorus reduction requirements for each phosphorus TMDL are summarized in Table F-3, ranging from 40% to 80%, based on a baseline watershed phosphorus load. Appendix F also provides recommended non-structural and structural BMPs, with associated phosphorus removal rates.

The phosphorus reduction requirements specified for the MS4s within the TMDL watersheds were all based on an in-lake target of 12 µg/L. This target was derived using a "weight-of-evidence" approach (discussed in Appendix A of each TMDL) to achieve an interim threshold chlorophyll-a concentration of 15 µg/L. This interim chlorophyll-a impairment threshold for swimming is applied as a daily maximum (or 90%ile) value. The use of a daily maximum (or 90%ile) 15 ug/l level as a "swimming impairment threshold" has no objective basis in science, was never adopted into state law and was never approved by EPA as the "applicable" water quality standard. The TMDLs themselves acknowledge that with the level of algal growth, the threshold is more restrictive than necessary to protect swimming uses. Historically, DES utilized a 20 ug/l seasonal average condition as the basis for identifying conditions that could potentially limit swimming uses. EPA, itself, has endorsed this level of control in Florida and has approved similar levels as protective in other states (*e.g.*, Minnesota).

The seasonal average (median) algal levels in many of these lakes are plainly not excessive (it is oligotrophic). Moreover, assessment of median growing season concentrations is the generally accepted method for assessment of nutrient impacts on lake environments, including swimming use impairment. Thus, at worst, the use of the 15 µg/l target should have been applied as a "median" not maximum, consistent with state and federal activities in dozens of other states as well as national guidance on proper regulation of nutrient effects. The modification of this endpoint to a more restrictive averaging period is contrary to applicable federal rules and cannot be attributed to any "weight of evidence" assessment as no "evidence" was presented to demonstrate this level of algal growth is necessary to protect swimming uses. *See* 40 C.F.R. § 122.44(d). Such an assessment, if balanced, would have produced a conclusion that a 15 µg/l median and 30 µg/l maximum reading would be protective of swimming uses. Given the tremendous expected cost to comply with the TMDL and MS4 general permit, it is inappropriate to base these requirements on an "interim" threshold that is 10 years old and has never gone through rulemaking. Rulemaking on the impairment threshold for chlorophyll-a in freshwater lakes should take place before the Draft Permit is finalized to confirm that the dramatic BMP reduction requirements of this permit are actually necessary.

The supporting data upon which the chlorophyll-a threshold is based includes an analysis of the relationship between TP and chlorophyll-a in New Hampshire lakes.

> NH DES used a similar statistical approach when developing preliminary TP criteria for freshwaters in New Hampshire (NH DES, 2005). The NH DES evaluation identified statistically significant relationships between chl a and TP for lakes. Statistical relationships were based on: 1) the median of TP samples taken at one-third the water depth in unstratified lakes and at the mid-epilimnion depth in stratified lakes; and 2) the median of composite chl a samples of the water column to the mid-metalimnion depth in stratified lakes and to the two-thirds water depth in unstratified lakes during the summer months (June through September). A total of 168 lakes were included in the analysis of which 23 were impaired for chl a (i.e., lakes with chl a greater than or equal to 15 µg/L). Of the 23 impaired lakes, approximately 14 were stratified (60%) and 9 were unstratified (40%).
>
> Figure A-2 shows the cumulative frequency plots for the impaired and non-impaired lakes. Based on Figure A- 2, an initial TP target of 11.5 µg/L was selected. As shown, 20% of the impaired lakes and 80% of the non-impaired lakes have TP concentrations < 11.5 µg/L which means that 20% of the non-impaired lakes have TP concentrations > 11.5 µg/L) [sic]. After rounding, a target of 12 µg/L strikes a reasonable balance between the percent of lakes that are impaired at concentrations below this level and the percent of lakes that are not impaired at concentrations above this concentration.

Baboosic Lake TP TMDL, Appendix A at A-4 (emphasis added).

As discussed above, the analysis supporting the 12 µg/L TP target is a *median* and the 15 µg/L chlorophyll-a target is also a *median*. The use of the median summer chlorophyll-a concentration in this analysis is inconsistent with application of the 15 µg/L threshold as a daily maximum in the TMDL. Given the nature of the TP endpoint derivation, the target chlorophyll-a concentration should be the summer median concentration and lakes, such as Baboosic Lake, would not be considered impaired. Moreover, the background document cited as the basis for choosing the 15 µg/l objective indicates that it is *not* an impairment threshold for swimming and exceedance of this objective should be allowed for 20% of the readings. *See* Baboosic Lake TP TMDL, Appendix A at A-4 *citing* DES Interim Chlorophyll Criteria for Lakes, at 1-2 (June 6, 2003). The target use for protection was swimming.

Finally, the TP endpoint used in all of the TMDLs was based on an evaluation of 168 lakes, without consideration of any of the factors that influence the response of lakes to nutrients as recommended by EPA in its Guidance on the development of numeric nutrient criteria for lakes (*e.g.,* depth, stratification, detention time, water transparency). This approach violates EPA's own guidance and cannot be considered scientifically defensible. Rather, multiple lake types

should have been identified and the database classified before target endpoints were developed (similar to the approach used in Minnesota[44] and Florida[45] and approved by EPA).

15. The Phosphorus TMDLs Impairment Listings Are Suspect

Wasteload allocations for the individual TMDLs were assessed using modeled lake water quality response to different loading scenarios. *See, e.g.*, Baboosic Lake TP TMDL Table 6-2, at 6-3. The modeled response to the current load for each TMDL is summarized below.

TMDL	TP Load (kg/yr)	Mean TP (µg/L)	Mean Chl-a (µg/L)	Probability of Summer Bloom > 15 µg/L
Baboosic Lake	175.8	18.4	6.7	3.1%
Horseshoe Pond	56.0	38.1	17	50.2
Nutt Pond	104.7	33.6	14.5	37.6
Pine Island	2533	33	14	37
Robinson Pond	115.2	20.1	7.5	5.1
Sebbins Pond	24.8	23.1	9	10.1
Showell Pond	30.3	37	16.3	46.6
Stevens Pond	65	23	9.0	10.1
Hoods Pond	505.0	49.0	23.5	74.2
Halfmoon Pond	25.1	35.4	15.5	42.8
Greenwood Pond	52.4	29	11.8	23.2
Flints Pond	80.4	19.8	7.4	4.7
Doors Pond	174.7	30.4	12.8	28
Country Pond	611.8	22	8.4	8.1
Governors Lake	61.6	23	8.8	9.2
Back Lake	134.5	13.7	4.5	0.4
Forest Lake	179.9	12.3	3.9	0.2
French Pond	62.7	32.4	13.8	34.0

[44] *See Minn. R. 7050.0222* Specific Water Quality Standards for Class 2 Waters of the State; Aquatic Life and Recreation- Eutrophication Standards for Class 2B, *available at* https://www.revisor.mn.gov/rules/?id=7050.0222.

[45] *See* 75 Fed. Reg. 75,762, 75,778 (Dec. 6, 2010) Table C-17- EPA's Numeric Criteria for Florida Lakes.

First, as is apparent from this chart, the median chlorophyll 'a' levels were acceptable (less than 15 µg/l median) for the vast majority of the waters claimed to be "impaired." These lakes should have, at most, a load freeze to protect existing water quality, though most should have been delisted. Moreover, the 2012 New Hampshire Consolidated Assessment and Listing Methodology (CALM) indicates that the Primary Contact Recreation use is fully supported when the total number of water quality exceedances is less than 10% of the observations. *See* 2012 CALM, at 38. The modeling results, shown above, indicate a summertime bloom probability of less than 10% for many of the TMDL watersheds including Baboosic Lake, Robinson Pond, Flints Pond, Country Pond, Governors Lake, Back Lake, and Forest Lake. These watersheds should not be considered impaired, even under the unduly restrictive chlorophyll a target value. Stebbins Pond and Stevens Pond marginally exceed the 10% threshold but have TP reduction requirements of 64% and 50%, respectively. These reduction requirements make no sense given the marginal exceedance predicted by the model. If the chlorophyll-a impairment threshold is a median, rather than a daily maximum, most of the lakes in the table already meet the target and further MS4 controls would not be required.

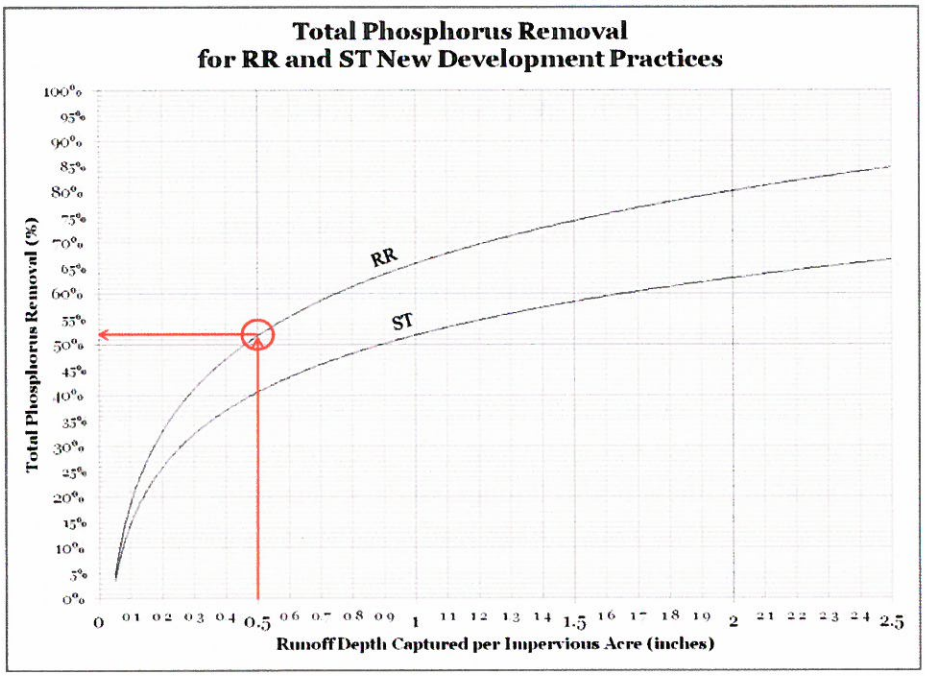
16. The Phosphorus TMDLs Set Unattainable Target Load Reductions.

The various non-structural BMPs have phosphorus reduction rates that typically range from 1% to 10%. Since the TMDLs call for phosphorus removals from the MS4 discharges of at least 40%, every MS4 community subject to a phosphorus TMDL must install structural BMPs to comply with the Draft Permit. The only structural BMPs capable of achieving the reductions called for in the TMDLs are infiltration trenches and basins. Consequently, compliance with the permit would require the installation of these basins throughout the municipality. Given the major cost that must be incurred to meet the TMDL BMP load reduction objectives, it is appropriate to reconsider the technical validity of these requirements.

The Infiltration Basin performance curves presented in Appendix F, Attachment 3 indicates that removal rates up to nearly 100% can be achieved using an Infiltration Basin. In addition, removals in excess of 50% are achieved with less than 0.2 inches of runoff treated. This performance seems completely unrealistic and field data were not provided to verify these performance estimates. The Final TMDL Report for Baboosic Lake indicates that the maximum estimated achievable reduction is approximately 60 – 70%. *See* Baboosic Lake TMDL, at 6-1. Based on this estimate, 9 of the TMDLs listed in Table F-3 cannot achieve their target load reductions because removals in excess of 60% are required. Since Section 402(p) only allows restrictions "to the maximum extent practicable" and attainment of such reductions is not "practicable", the proposed permit requirements exceed statutory authority.

An alternative curve (presented below) for estimating phosphorus reduction, from the Chesapeake Bay Program, indicates that significantly higher rainfall capture levels are required

to obtain approximately 50% reduction in phosphorus load.[46] Consequently, the facilities subject to these requirements would need to install large infiltration basins throughout the watershed. Using the examples presented in Appendix F, Attachment 3 the affected municipalities would need to devote approximately 3% of the overall surface area in MS4 service areas to these basins. This land requirement is extreme and expensive – and again, not demonstrated by EPA to be "practicable". Communities faced with such requirements would likely be subject to substantial and basin-wide economic impacts as recognized under 40 C.F.R. § 131.10(g)(6). Given this certainty, the PCP Component Development Schedule presented in Appendix F (at 7) should be relaxed to allow up to 20 years for overall compliance, assuming the target reduction is practicable.



17. For Waters Impaired for Aluminum, The Agency Must Consider Other Factors That May Cause Elevated Levels of Aluminum Before Imposing Other Requirements on MS4s

The Draft Permit specifically addresses Aluminum impaired lakes with TMDLs. *See* Draft Permit Section 2.2.1.c. Wasteload allocations are not specified for MS4s in the TMDLs since atmospheric deposition was determined to be the cause of impairment. However, this Permit section provides the following caveat:

[46] Attachment I- *Recommendations of the Expert Panel to Define Removal Rates for New State Stormwater Performance Standards*, at 9, Figure 1- New BMP Removal Rate Adjustor Curve for Phosphorus (Apr. 30, 2012), *available at* http://www.chesapeakebay.net/documents/Final_CBP_Approved_Expert_Panel_Report_on_Stormwater_Performance_Standards_SHORT.pdf.

> However, if the permittee becomes aware, or EPA or NHDES determines, that an MS4 discharge is causing or contributing to such impairment to an extent that cannot be explained by atmospheric deposition (e.g. chemical spill, acid landfill leachate or other sources), the permittee shall comply with the requirements of Part 2.1.1.c.

Draft Permit, at 15. The two specific examples given (chemical spill and acid landfill leachate) represent illicit discharges that are not under the control of the MS4 and it is inappropriate to make the MS4 operator pay for the illegal actions of others. In the event that other sources are responsible, EPA or DES must determine that these sources are not natural and that the discharge is significant before imposing the requirements of Part 2.1.1.c on the MS4. Moreover, in assessing whether the MS4 is causing or contributing to an exceedance of the aluminum criteria, the DES criteria for aluminum should be corrected to account for site-specific conditions of the receiving water.

The DES criteria for aluminum (Env-Wq 1703.1) are the National Recommended Water Quality Criteria developed by EPA in 1986. Those criteria specifically caution that they may be overprotective for the following reasons:

1. The value of 87 µg/L is based on a toxicity test with the striped bass in water with a pH of 6.5 – 6.6 and a hardness < 10 mg/L. Data from a WER submitted to EPA in 1994 indicate that aluminum is substantially less toxic at higher pH and hardness.

2. In tests with brook trout, total recoverable aluminum appears to be more appropriate as an indicator of toxicity than the dissolved form. However, this analysis was based on exposure to aluminum hydroxide particles. In surface waters, total recoverable aluminum may be primarily associated with clay particles, which may be less toxic.

3. EPA is aware of many high quality waters in the U.S. that contain more than 87 µg/L of either total recoverable or dissolved aluminum.[47]

Water quality data for New Hampshire indicate that naturally elevated levels of aluminum are common. These elevated aluminum levels are likely due to the weathering of granitic rock, which yields aluminum in particles, and not the form of aluminum considered in development of the current DES criteria. Given these considerations, identified by EPA in the *National Recommended Water Quality Criteria: 2002*, it is inappropriate to assess waters impaired by aluminum without considering whether the conditions of the receiving water are consistent with the manner in which the criteria were derived.

[47] *See* USEPA National Recommended Water Quality Criteria: 2002, EPA-822-R-02-047, at 26 n. L.

2.1.1 Requirement to Meet Water Quality Standards

~~a.~~

a. The permittee shall reduce the discharge of pollutants such that the discharges from the MS4 do not cause or contribute to an exceedance of water quality standards.

b. If there is a discharge from the MS4 to a waterbody (or its tributaries in some cases) that is subject to an approved TMDL identified in Part 2.2.1, the permittee is subject to the requirements of Part 2.2.1 and Appendix F of this permit and the permittee shall comply with all applicable schedules and requirements in Appendix F. A permittee's compliance with all applicable requirements and BMP implementation schedules in Appendix F applicable to it will constitute compliance with Part 2.1.1.a. of the Permit.

c. If there is a discharge from the MS4 to a waterbody (or its tributaries in some cases) that is water quality limited (see definition in Appendix A) due to nutrients (nitrogen or phosphorus), metals, solids, bacteria/pathogens, chloride or oil and grease (hydrocarbons) and is not subject to an approved TMDL, or the MS4 is located within a municipality listed in Part 2.2.2.a.-b., the permittee is subject to the requirements of Part 2.2.2 and Appendix H of this permit and the permittee shall comply with all applicable schedules and requirements in Appendix H. A permittee's compliance with all applicable requirements and BMP implementation schedules in Appendix H applicable to it will constitute compliance with Part 2.1.1.a. of the Permit.

d. Except where a discharge is subject to the requirements of Part 2.2.1 and/or Part 2.2.2 of this permit and the permittee is complying with all applicable requirements of Part 2.2.1 and Appendix F and/or 2.2.2, and Appendix H, if there is a discharge from the MS4 that is causing or contributing to a violation of applicable water quality standards (including numeric and narrative water quality criteria) for the receiving water (applicable water quality standards are the state standards that have been federally approved as of the effective date of this permit and are compiled at http://www.epa.gov/waterscience/standards/wqslibrary/), the permittee shall, as expeditiously as possible, but no later than 60 days of becoming aware of the situation, eliminate the condition causing or contributing to an exceedance of water quality standards. Where elimination of the condition causing or contributing to an exceedance of water quality standards within 60 days of its identification is not possible, the permittee shall establish an expeditious schedule for elimination and report the dates of identification and schedules for removal in the permittee's annual reports. The permittee shall immediately commence actions necessary for elimination. The permittee shall diligently pursue elimination of all conditions causing or contributing to an exceedance of water quality standards. ~~Discharges shall not cause or contribute to an exceedance of applicable water quality standards (including numeric and narrative water quality criteria) for the receiving water. Applicable water quality standards are the State standards that have been federally approved as of the effective date of this permit.~~

~~b. For each waterbody that receives a discharge from the small MS4, the permittee shall consult the water quality standards applicable to that waterbody. Applicable water quality standards are compiled at http://www.epa.gov/waterscience/standards/wqslibrary/. The NHDES also makes a copy of its regulations available at:~~

http://des.nh.gov/organization/commissioner/legal/rules/documents/env-wq1700.pdf

c. If at any time the permittee determines or EPA or the state agency determines that a discharge causes or contributes to an exceedance of applicable water quality standards, the permittee shall within 60 days of becoming aware of the situation eliminate the conditions causing or contributing to an exceedance of water quality standards. If elimination of the conditions within 60 days is infeasible, the permittee shall develop a Water Quality Response Plan addressing the pollutant(s) causing the conditions (the "pollutants of concern") pursuant to Part 2.2.2 below. The permittee shall include in its annual report (1) a listing of any such discharges identified during the reporting period; (2) a description of measures taken to eliminate conditions within 60 days or the basis of a finding that such elimination is infeasible; and (3) a description of any Water Quality Response Plan as specified in part 2.2.2. The permittee must comply with any additional requirements or schedules established by EPA or the state agency, including any requirement to submit additional information concerning the potential cause of the exceedance. Any discharge causing or contributing to an exceedance of applicable water quality standards violates Part 2.1.1.a of this permit and remains a violation until eliminated. The 60 days to eliminate the conditions causing or contributing to an exceedance of an applicable water quality standard is not a grace period; compliance with the requirements of Part 2.1.1.c does not excuse or otherwise constitute a defense to a violation of Part 2.1.1.a.

2.2 Discharges to Certain Impaired Waters

The permittee shall identify in the SWMP and Annual Reports all discharges, including both outfalls and interconnections to other MS4 or other separate storm sewer systems, that:

- Are subject to an approved Total Maximum Daily Load (TMDL) as identified in Part 2.2.1;
- Are subject to additional requirements to protect water quality as identified in Part 2.2.2.
- Discharge to a water identified as impaired by the State agency pursuant to Section 303(d) of the Clean Water Act and for which TMDL development has been identified as necessary, but for which a TMDL has not yet been approved; or
- Discharge to a tributary of any nitrogen-impaired water in the Great Bay watershed.

The discharge location from an interconnection shall be determined based on the receiving water of the outfall from the interconnected system. The discharge location from an interconnection shall be determined based on the receiving water of the outfall from the interconnected system. EPA or the State agency may determine that additional waters shall be treated as "impaired" waters pursuant to this Part based on water quality or modeling information and shall notify the affected MS4 operators of any such determination.

2.2.1 Discharges Subject to Requirements Related to an Approved TMDL

a. "Approved TMDLs" for discharges from the permittee's MS4 are those that have been approved by EPA as of the effective date of this permit

b. For those TMDLs that specify a wasteload allocation or other requirements either individually or categorically for the MS4 discharge, the permittee shall comply with the terms of Part 2.1 and 2.2 and satisfy the appropriate requirements of Appendix F. Appendix F identifies, by section, the provisions and schedules the permittee shall ~~implement~~ comply with to be consistent with the terms of the approved TMDL. ~~In addition to those specific requirements, EPA may notify the small MS4 of the need to comply with additional requirements that are consistent with the assumptions and requirements of the Waste Load Allocation (WLA).~~ Alternatively, EPA may notify the permittee that an individual permit application is necessary in accordance with Part 1.8.

c. The "TMDL for 158 Acid Impaired Ponds and 21 Aluminum Impaired Lakes" does not specify a wasteload allocation or other requirements either individually or categorically for the MS4 discharges and specifies that load reductions are to be achieved through reduction in atmospheric deposition sources. No requirements related to this TMDL are imposed on MS4 discharges under this Part. However, if the permittee becomes aware, or EPA or NHDES determines, that an MS4 discharge is causing or contributing to such impairment to an extent that cannot be explained by atmospheric deposition (e.g. chemical spill, acid landfill leachate or other sources), the permittee shall comply with the requirements of Part 2.1.1.de.

d. The following is a list of municipalities that contain waters ~~small MS4s~~ subject to an approved TMDL for chlorides:

1.
DERRY
LONDONDERRY
SALEM
WINDHAM

~~2. Non Traditional and Transportation MS4s discharging to Beaver Brook, Dinsmore Brook, North Tributary to Canobie Lake, or Policy Porcupine Brook~~

The operators of MS4s located in municipalities listed above that discharge to Beaver Brook, Dinsmore Brook, North Tributary to Canobie Lake, or Policy-Porcupine Brook and any other MS4 that discharges directly to Beaver Brook, Dinsmore Brook, North Tributary to Canobie Lake, or Policy-Porcupine Brook shall meet the requirements of Appendix F Part I with respect to reduction of chloride discharges from their MS4.

e. The following is a list of municipalities that contain waters subject to an approved TMDL for bacteria or pathogens. ~~The following is a list of small MS4s in NH subject to an approved TMDL for bacteria. The municipalities subject to a bacteria TMDL can also be found on Table F1 and Table F2 in Appendix F:~~

1.

AMHERST	MANCHESTER
BEDFORD	MERRIMACK
CHESTER	MILFORD
DERRY	MILTON

DOVER	NASHUA
DURHAM	NEW CASTLE
EXETER	NEWINGTON
FARMINGTON	NORTH HAMPTON
GOFFSTOWN	PELHAM
GREENLAND	PLAISTOW
HAMPSTEAD	PORTSMOUTH
HAMPTON	ROCHESTER
HAMPTON FALLS	ROLLINSFORD
HOLLIS	RYE
HOOKSETT	SALEM
HUDSON	SANDOWN
KINGSTON	SEABROOK
LEE	SOMERSWORTH
MADBURY	

~~Non Traditional and Transportation MS4s discharging to any waterbody listed on Table F1 or Table F2 in Appendix F~~.

The operators of MS4s located in municipalities listed above that discharge to a waterbody segment listed on Table F-1 in Appendix F and any other MS4 that discharges directly to a waterbody segment listed on Table F-1 in Appendix F shall meet the requirements of Appendix F, Part II with respect to reduction of bacteria/pathogens discharges from their MS4.~~The operators of MS4s listed in 2.2.1.e.1. and 2 above shall meet the requirements of Appendix F with respect to reduction of bacteria discharges from the MS4.~~

f. The following is a list of municipalities that contain a lake or pond subject to an approved lake or pond phosphorus TMDL~~small MS4s in NH subject to an approved TMDL for phosphorus~~, ~~the municipalities subject to a phosphorus TMDL can also be found on Table F4 in Appendix F:~~

1.

AMHERST
BEDFORD
DERRY
HOLLIS
HUDSON
KINGSTON
MANCHESTER
MERRIMACK
RAYMOND
SANDOWN

2. ~~Non Traditional and Transportation MS4s discharging any waterbody listed on Table F4 in Appendix F~~

~~3. Any other municipality that operates a regulated MS4 located within the watershed boundary of any waterbody listed on Table F-4 in Appendix F~~

Permittees that operate regulated MS4s in the above municipalities that discharge to waterbodies listed on Table F-2 in Appendix F or their tributaries, and any other MS4 that discharges to waterbodies listed on Table F-2 in Appendix F or their tributaries, shall meet the requirements of Appendix F, Part A.II with respect to reduction of phosphorus discharges from their MS4.~~Permittees that operate regulated MS4s that discharge to waterbodies with an approved phosphorus TMDL or within the waterbody's tributary watershed shall meet the requirements of Appendix F with respect to reduction of phosphorus discharges from the MS4.~~

~~g. Permittees identified in Appendix F, or above, shall document in their annual report all control measures implemented during the reporting period or planned to be implemented in the next reporting period to control the pollutants identified in the approved TMDLs and provide an assessment of the effectiveness of the implemented BMPs. The Year Five annual report shall include a quantitative assessment of load reductions achieved through the implemented controls demonstrating that such reductions are consistent with the load reductions identified in the WLA; or if such controls are inadequate, the permittee shall describe in the annual report additional measures needed to achieve load reductions consistent with the assumptions of the requirements of the WLA and implement those measures as soon as possible.~~

~~h. Timeframes of requirements in Appendix F do not constitute a compliance schedule under 40 CFR §122.47. The requirements of Part 2.2.1 and Appendix F are independent of the requirements of Part 2.1 and its subsections, and compliance with the requirements of Part 2.2.1 does not excuse or otherwise constitute a defense to a violation of Part 2.1 or any other provision of the permit or of any applicable law or regulation. The permittee shall not be in compliance with Part 2.1 and its subsections until the permittee has satisfied all requirements of the applicable WLA.~~

2.2.2 Discharge to ~~an~~ Certain Water Quality Limited Waters ~~Impaired Water~~ without an Approved TMDL

For purposes of this permit, a 'water quality limited water body' is any water body that does not meet applicable water quality standards, including but not limited to waters listed in categories 5 or 4b on the most recent EPA approved New Hampshire Clean Water Act section 303(d) list or New Hampshire Integrated Report under Clean Water Act section 305(b).

If there is a discharge from the MS4 to a water quality limited waterbody where pollutants typically found in stormwater (specifically nutrients (nitrogen or phosphorus), solids, bacteria/pathogens, chloride, metals and oil and grease (hydrocarbons)) are the cause of the impairment and there is not an approved TMDL, or the MS4 is located in a town listed in Part 2.2.2.a.-b. the permittee shall comply with the provisions in Appendix H applicable to it.

In the absence of a defined pollutant reduction target and where no approved TMDL has been established, this permit Part and Appendix H define an iterative approach addressing pollutant reductions to waterbodies where the permittee's discharge is causing or contributing to an

excursion above water quality standards due to nutrients (nitrogen or phosphorus), solids, bacteria/pathogens, chloride, metals or oil and grease (hydrocarbons).

a. Discharges to water quality limited waterbodies where nitrogen is the cause of the impairment, or their tributaries

i. The requirements of this Part are applicable to:

1. Permittees (including traditional and non-traditional MS4s) that own or operate an MS4 in the following municipalities. Discharges from MS4s within these municipalities are to waterbodies that are impaired due to nitrogen, or their tributaries.

BARRINGTON
BRENTWOOD
CANDIA
CHESTER
DANVILLE
DERRY
DOVER
DURHAM
EAST KINGSTON
EPPING
EXETER
FREMONT
GREENLAND
HAMPSTEAD
HAMPSTON FALLS
KENSINGTON
KINGSTON
LEE
MADBURY
MILTON
NEWFIELDS
NEWINGTON
NEWMARKET
NORTH HAMPTON
PORTSMOUTH
RAYMOND
ROCHESTER
ROLLINSFORD
SANDOWN
SOMERSWORTH
STRATHAM

2. Any other permittee that, during the permit term, becomes aware that its discharge is to a waterbody that is impaired due to nitrogen, or a tributary of such water.

ii. Permittees subject to Part 2.2.2.a.i above shall meet the requirements of Appendix H Part I with respect to the control of nitrogen discharges from their MS4;

b. Discharges to water quality limited waterbodies where phosphorus is the cause of the impairment, or their tributaries

i. The requirements of this Part are applicable to:

1. Permittees (including traditional and non-traditional MS4s) that own or operate an MS4 in the following municipalities. Discharges from MS4s within these municipalities are to waterbodies that are impaired due to phosphorus, or their tributaries.

~~AMHERST~~
~~ATKINSON~~
~~BEDFORD~~
~~DERRY~~
~~DOVER~~
~~GOFFSTOWN~~
~~HAMPSTEAD~~
~~KINGSTON~~
~~LITCHFIELD~~
~~MANCHESTER~~
~~MERRIMACK~~
~~PELHAM~~
~~ROLLINSFORD~~
~~SALEM~~
~~SANDOWN~~
~~SOMERSWORTH~~
~~WINDHAM~~

ATKINSON
DERRY
DOVER
GOFFSTOWN
HAMPSTEAD
KINGSTON
LITCHFIELD
MANCHESTER
PELHAM
RAYMOND
ROLLINSFORD
SALEM
SANDOWN

SOMERSWORTH
WINDHAM

2. Any other permittee that, during the permit term, becomes aware that its discharge is to a waterbody that is water quality limited due to phosphorus, or to a tributary of such water.

ii. The permittees subject to Part 2.2.2.b.i. above shall meet all requirements of Appendix H Part II with respect to the control of phosphorus discharges from the MS4.

c. Discharges to water quality limited waterbodies where bacteria or pathogens is the cause of the impairment

i. The requirements of this Part are applicable to:

1. ~~1.~~ Permittees (including traditional and non-traditional MS4s) that own or operate an MS4 in the following municipalities. Discharges from MS4s within these municipalities are to waterbodies that are impaired due to ~~Any MS4 discharging directly to a water quality limited waterbody where~~ bacteria or pathogens ~~is the cause of the water quality limitation~~.

DERRY
EXETER
HOLLIS
HUDSON
KINGSTON
MANCHESTER
MILTON
NEW CASTLE
NORTH HAMPTON
ROCHESTER
RYE
SALEM
WINDHAM

2. Any other permittee that, during the permit term, becomes aware that its discharge is to a waterbody that is water quality limited due to bacteria or pathogens

ii. The permittees subject to Part 2.2.2.c.i. shall meet all requirements of Appendix H Part III with respect to reduction of bacteria or pathogens discharges from the MS4.

d. Discharges to water quality limited waterbodies where chloride is the cause of the impairment

i. The requirements of this Part are applicable to:

1. Permittees (including traditional and non-traditional MS4s) that own or operate an MS4 in the following municipalities. Discharges from MS4s within these municipalities are to waterbodies that are impaired due to ~~Any MS4 discharging directly to a water quality limited waterbody where~~ chloride ~~is the cause of the impairment~~.

BEDFORD
DERRY
DOVER
DURHAM
EXETER
GOFFSTOWN
GREENLAND
HOOKSETT
LONDONDERRY
MANCHESTER
NASHUA
PORTSMOUTH
RYE
SALEM
SEABROOK
STRATHAM

2. Any other permittee that, during the permit term, becomes aware that its discharge is to a waterbody that is water quality limited due to chloride.

ii. The permittees subject to Part 2.2.2.d.i. shall meet all requirements of Appendix H Part IV with respect to reduction of chloride discharges from the MS4.

e. Discharges to water quality limited waterbodies where oil and grease (hydrocarbons), solids or metals is the cause of the impairment

i. The requirements of this Part are applicable to:

1. ~~1.~~ Permittees (including traditional and non-traditional MS4s) that own or operate an MS4 in the following municipalities. Discharges from MS4s within these municipalities are to waterbodies that are impaired due to ~~Any MS4 discharging directly to a water quality limited waterbody where~~ solids, oil and grease (hydrocarbons) or metals ~~is the cause of the impairment~~.

EXETER
GOFFSTOWN
HAMPTON
LONDONDERRY
MANCHESTER
PORTSMOUTH
STRATHAM

2. Any other permittee that, during the permit term, becomes aware that its discharge is to a waterbody that is water quality limited due to

ii. The permittees subject to Part 2.2.2.d.i. shall meet all requirements of Appendix H Part V with respect to reduction of solids, oil and grease (hydrocarbons) or metals discharges from the MS4.

~~If there is a discharge from the MS4 to any impaired water without an approved TMDL, the permittee shall comply with Part 2.1 of this permit. Furthermore, if there is a discharge from the MS4 to an impaired water without an approved TMDL, other than a chloride-impaired waters addressed under Part 2.2.4, the permittee shall address in the SWMP and annual reports how the discharge of pollutants(s) identified as causing the impairment (pollutant(s) of concern) will be controlled such that they do not cause or contribute to the impairment. (For specific requirements applicable to the Great Bay Estuary watershed, see both this Part 2.2.2 and also Part 2.2.3.)~~

~~In light of the absence of a defined pollutant reduction target where no TMDL has been established, this permit part defines an iterative approach to addressing such discharges that incorporates three phases over the course of the permit term:~~

> ~~**Phase 1**. Preliminary evaluation and source identification for MS4 discharges and identification of additional and/or modified BMPs to address the pollutant of concern ("Planned BMPs") Part 2.2.2.a. Phase 1 shall be completed 1 year from the effective date of the permit.~~
>
> ~~**Phase 2**. Implementation of BMPs and finalization of the source identification and assessment Part 2.2.2.b. Phase 2 shall be completed three years from the effective date of the permit.~~
>
> ~~**Phase 3**. Assessment of implemented BMPs with modifications as necessary based on additional information and implementation experience and identification of Prospective BMPs for possible implementation Part 2.2.2.c. Phase 3 shall be completed five years from the effective date of the permit.~~

~~a. Phase 1~~

~~i. Preliminary evaluation of discharges to impaired waters.~~

> ~~(a) Within one year of the permit effective date, the permittee shall evaluate its discharges to impaired waters in order to (1) assess whether MS4 discharges are potential contributors to the identified impairment; and (2) identify sources of pollutant(s) of concern in the MS4 area draining to the impaired waters. The permittee may consider multiple MS4 discharges to the same receiving water together, but shall conduct a separate evaluation for each impaired receiving water. This initial evaluation may be qualitative in nature, and must be reassessed over the course of the permit term. The permittee shall consider the nature of the~~

pollutant, all available monitoring data, likely causes as identified by the state agency during water quality assessments, land use and impervious cover in the MS4 area draining to the water body, the proportion of the watershed to the receiving water that is within the MS4 jurisdiction, the presence or absence of other pollutant sources, and any other information deemed relevant by the permittee. The initial assessment may include, but is not limited to, the assessment of the following source categories:

1. Fertilizer Use – nutrient and bacteria impairments
2. Illicit discharges – nutrient and bacteria impairments
3. Leaf litter – nutrient impairments
4. Pet waste – nutrient and bacteria impairments
5. Industrial areas – metals impairments
6. Construction – total suspended solids (TSS)/solids and turbidity impairments
7. Highly impervious area – nutrient, metals, bacteria and TSS impairments

EPA presumes that MS4 discharges are potential contributors to impairments due to nutrients (phosphorus or nitrogen), bacteria, suspended solids, metals, or oil and grease.

(b) The permittee shall, as part of Phase 1, develop a Water Quality Response Plan (WQRP) pursuant to Part 2.2.2.a.ii, and include the WQRP with the SWMP.

(c) Notwithstanding Part 2.2.2.a.i.b, if the permittee's analysis under paragraph 2.2.2.a.i.a suggests that its MS4 discharges are *not* potential contributors to impairments, then the permittee shall report the basis for that determination in its Year 1 annual report rather than developing a WQRP. Notwithstanding the permittee's analysis, EPA or the State Agency may at any time, based on water quality data or modeling, determine that a permittee's discharges are in fact a potential contributor, and require the permittee to develop a WQRP.

ii. Water Quality Response Plan

(a) Except as provided in Part 2.2.2.a.i.c, within one year of the permit effective date the permittee shall develop a WQRP that identifies additional or modified BMPs the permittee will implement to ensure that its discharges do not cause or contribute to the impairment. The WQRP shall be a separate section of the SWMP. The WQRP is designed to provide an iterative process for addressing discharges that have the potential to cause or contribute to impairments. The content of the WQRP should reflect the magnitude and complexity of the impairment and the permittee's potential to contribute to the impairment. The permittee may develop a single WQRP covering all impairment pollutants, waterbodies, and catchments; or it may develop multiple separate WQRPs (subdivided by pollutant, waterbody, and/or catchment), so long as its separate

WQRPs, taken together, collectively address all impairment pollutants, waterbodies, and catchments.

(b) The WQRP shall contain the following elements:

1. Preliminary source assessment - The plan shall include the source identification and assessment required by Part 2.2.2.a.i. describing the permittee's source identification and assessment procedures and the target pollutants and receiving waters. The plan shall list the specific receiving water segments, impairments and pollutants of concern addressed by the plan.

2. A comprehensive listing of additional or modified BMPs to address pollutants causing impairments. The permittee shall consider each of the following types of BMPs for inclusion:
    a) Additional and/or modified public education programs (beyond what is required in Part 2.3.2);
    b) Increasing the priority of catchments discharging to the impaired water for IDDE under Part 2.3.4;
    c) More stringent development/redevelopment requirements than those required under Part 2.3.5 and 2.3.6, which may include:
        1. Requiring the use of BMPs effective at reducing the pollutants of concern in development/redevelopment within the MS4 area,
        2. More stringent redevelopment standards,
        3. Application of development/redevelopment and construction standards to developments disturbing less than one acre
    d) Revision of Good Housekeeping and Pollution Prevention under Part 2.3.7 to target catchments draining to impaired waters which may include:
        1. Increased catch basin cleaning
        2. Increased street sweeping
        3. Reduced fertilizer use
        4. Leaf litter collection programs
        5. Policies and procedures to incorporate stormwater management improvements in street reconstruction and other permittee-owned projects).
    e) Implementation of programs leading to disconnection of directly connected impervious area (DCIA) on municipal and/or private property. These programs may include:
        1. Downspout disconnection programs
        2. Green roofs installation programs
        3. Residential rain garden programs
        4. Programs targeting the removal of unnecessary impervious area

f) Structural BMP retrofits, including identifying specific projects to be undertaken during the permit term;

The permittee shall identify additional and modified BMPs from each of a) through e) above, unless they are inapplicable to its system or the pollutant(s) of concern and the permittee provides the basis for that determination in its WQRP.

3. A schedule for implementing the BMPs, including, as appropriate: funding, training, purchasing, construction, monitoring, and other assessment and evaluation components of implementation. Implementation of planned BMPs developed under Part 2.2.2.a.ii.b.2 must begin as soon as possible but not later than 18 months after the permit effective date. All planned BMPs shall be fully implemented within three (3) years of the permit effective date unless the permittee can document that such implementation is infeasible. Non-structural, operational, source control and pollution prevention measures shall be presumed feasible to fully implement within two years. Where planned structural BMP retrofits or major drainage infrastructure projects are expected to take additional time to construct, the permittee shall within 2 years of the effective date of the permit have a schedule for completion of construction within five years of permit effective date, including identification of funding source.

4. A description of the monitoring or other assessment and evaluation efforts that will be implemented to monitor, assess or evaluate the effectiveness of the WQRP.

The Permittee shall include the WQRP in its first annual report and the permittee shall report on the status of each BMP in each subsequent annual report.

b. Phase 2

i. Implementation of Planned BMPs

The permittee shall implement planned BMPs identified in the WQRP in accordance with the schedule requirements of paragraph 2.2.2.a.ii.

ii. Final Source Identification and Assessment

Within three years of the permit effective date the permittee shall complete a final Source Identification and Assessment report, updating the source identification assessment produced under Part 2.2.2.a.i. The final report shall include the following elements:

1. Specific receiving water segments, impairments and pollutants of concern

2. Calculation of total MS4 area draining to the impaired receiving water segments, incorporating updated mapping of the MS4 and catchment delineations produced pursuant to Part 2.3.4.d,
3. All screening and monitoring results pursuant to Parts 2.3.4 and 3.0, targeting the receiving water segments
4. Impervious area and DCIA for the target catchment, where available
5. Updated pollutant source categories (see Part 2.2.2.a.i.) and their physical location and/or area extent within the MS4 area.

The final source identification and assessment report shall be submitted to EPA as part of the Year 3 annual report.

e. Phase 3

i. Reassessment of Implemented BMPs

Within four years of the permit effective date, the permittee shall reassess the implemented BMPs and the MS4's initial evaluation as to potential to cause or contribute to the impairment. Using the information developed in the updated source identification and assessment report, experience with implementation and operation of planned BMPs, and any available information on the effectiveness of the planned BMPs, the permittee shall assess whether planned BMPs should be modified or additional BMPs should be added to target identified sources. If so, the permittee shall revise the planned BMPs as appropriate, provide a schedule for implementation of any additional BMPs, and implement them according to that schedule, beginning as soon as possible. Where the permittee has initially determined that it is not a potential contributor to an impairment, the permittee shall review that determination in light of the final source identification and assessment, and shall develop a WQRP for discharges that are determined to be a potential contributor to an impairment. The permittee shall document its reassessment in the Year 4 annual report.

ii. Prospective BMPs

Within five years of the permit effective date, the permittee shall identify Prospective BMPs to be implemented if further reductions are necessary. The permittee shall evaluate all properties identified as presenting retrofit opportunities under Part 2.3.6.8.b. that are within the drainage area of the impaired water. The evaluation shall include:

1. Identification of potential redevelopment or retrofit BMPs that would reduce the pollutant of concern;
2. The next planned infrastructure, resurfacing or redevelopment activity planned for the property;
3. The estimated cost of redevelopment or retrofit BMPs; and
4. The engineering and regulatory feasibility of redevelopment or retrofit BMPs.

The permittee shall provide a listing of Prospective BMPs and a plan and schedule for implementation in the Year five annual report. Thereafter, the permittee shall implement the

Prospective BMPs in accordance with the plan and schedule in the Year five annual report.

For discharges identified pursuant to paragraph 2.1.1.c. or 2.2.2.c.i. after the first year, the WQRP shall be completed within 180 days of identification of the discharge or determination that a discharge causes or contributes to an impairment, and timelines based on permit effective date shall be based on the date of identification of the discharge.

The development of a WQRP shall by itself not be considered evidence that a discharge is in fact causing or contributing to an impairment. The above timeframes do not constitute a compliance schedule under 40 CFR §122.47, and the implementation of a WQRP does not relieve the permittee of its obligations under Part 2.1 and its subsections. However, EPA will consider the appropriateness and promptness of a response plan in determining enforcement responses to permit violations. The permittee shall comply with any additional BMPs or other requirements established by EPA or the state agency.

2.2.3 Great Bay Watershed Nitrogen Requirements

The municipalities within the Great Bay Estuary watershed that have regulated MS4s that discharge directly to the nitrogen-impaired waterbodies in the Great Bay Estuary watershed or their tributaries are listed below and in Appendix H, Table H-1. The operators of MS4s listed below or in Table H-1 shall meet all requirements of Part 2.2.2 with respect to reduction of nitrogen discharges from the MS4; however, the additional and modified BMPs included in the WQRP (see Part 2.2.2.a.ii.) shall include, at a minimum, the BMPs identified in Appendix H. Compliance with this section does not relieve the permittee from compliance with Section 2.1.

1.

BARRINGTON	KENSINGTON
BRENTWOOD	KINGSTON
CANDIA	LEE
CHESTER	MADBURY
DANVILLE	MILTON
DERRY	NEWFIELDS
DOVER	NEWINGTON
DURHAM	NORTH HAMPTON
EAST KINGSTON	PORTSMOUTH
EPPING	RAYMOND
EXETER	ROCHESTER
FREMONT	ROLLINSFORD
GREENLAND	SANDOWN
HAMPSTEAD	SOMERSWORTH
HAMPSTON FALLS	STRATHAM

2. Non Traditional and Transportation MS4s located in urbanized areas within the above municipal boundaries

2.2.4 Discharges to Chloride-Impaired Waters

~~The municipalities that have small MS4s located in areas with chloride-impaired waters for which a TMDL has not yet been approved are named below as well as in Appendix H, Table H2. Permittees that operate regulated MS4s located within these municipalities that discharge directly to the identified impaired waters must identify and implement BMPs designed to substantially reduce chloride discharges. For this purpose, the permittee shall meet the requirements set forth in Appendix H. Compliance with this section does not relieve the permittee from compliance with Section 2.1.~~

~~1.~~

~~BEDFORD~~	~~NEWINGTON~~
~~DOVER~~	~~PORTSMOUTH~~
~~DURHAM~~	~~RYE~~
~~GOFFSTOWN~~	~~SALEM~~
~~LONDONDERRY~~	~~SEABROOK~~
~~MANCHESTER~~	~~STRATHAM~~
~~NASHUA~~	

~~2. Non Traditional and Transportation MS4s discharging any waterbody listed on Table H2 Appendix H~~

2.3.6 Stormwater Management in New Development and Redevelopment (Post Construction Stormwater Management)

Objective: The objective of this control measure is for the hydrology resulting from new development to mirror the pre-development hydrology of the site or to improve the hydrology of a redeveloped site and reduce the discharge of stormwater.

a. Permittees shall develop, implement, and enforce a program to address post-construction stormwater runoff from all new development and re-development projects that disturb a minimum of one or more acres and discharge into the permittees MS4 at a minimum. Permittees authorized under the MS4-2003 permit shall continue to implement and enforce their program and modify as necessary to meet the requirements of this Part.

i. The permittee's new development/ re-development program shall include projects less than one acre if the project is part of a larger common plan of development or redevelopment which disturbs one or more acre.

ii. The permittee shall develop or modify, as appropriate, an ordinance or other regulatory mechanism within two (2) years of the effective date of the permit to contain provisions that are as least as stringent as the following:

(a).Low Impact Development (LID) site planning and design strategies must be used to the maximum extent feasible in order to reduce the discharge of stormwater from new development.

(b).Salt storage areas on commercial and industrial developments shall be covered and loading/offloading areas shall be designed and maintained in accordance with NH DES published guidance such that no untreated discharge to receiving waters results. Snow storage areas shall be located in accordance with NH DES published guidance such that no direct untreated discharges to receiving waters are possible from the storage site. Runoff from snow and salt storage areas shall enter treatment areas as specified above before being discharged to receiving waters or allowed to infiltrate into the groundwater. See NHDES published guidance fact sheets on road salt and water quality, and snow disposal at http://des.nh.gov/organization/commissioner/pip/factsheets/wmb/index.htm.

(c).The selection and design of treatment and infiltration practices should follow the guidance in Volume 2 (Post-Construction Best Management Practices Selection & Design) of the New Hampshire Stormwater Manual as amended, where applicable.

(d).Stormwater management systems on new and re-developed sites shall be designed to:

(1) Remove pollutants in accordance with Env-Wq 1507.03;
(2) Recharge groundwater in accordance with Env-Wq 1507.04[1];
(3) Protect channels in accordance with Env-Wq 1507.05[2];
(4) Control peak runoff rates in accordance with Env-Wq 1507.06[2]; and
(5) Implement long term maintenance practices in accordance with Env-Wq 1507.08.

(e).Stormwater management systems on redevelopment sites shall be designed to retain or treat runoff from the disturbed portion of the redevelopment site. In accordance with Part 2.3.6(a)ii.(d), offsite mitigation within the same USGS HUC10 as the redevelopment site may be used to meet the pollutant removal equivalent of the requirements in Part 2.3.6(a)ii.(d)(1) and the equivalent groundwater recharge requirements of Part 2.3.6(a)ii.(d)(2).

(f).Redevelopment that disturbs equal to or greater than 1 acre and exclusively involves maintenance and improvement of existing roadways, including road widening that increases the total road width by less than 10%, shall improve existing conditions where feasible and are exempt from Part 2.3.6(a)ii.(d). Roadway widening or improvements that increase the amount of impervious area on the redevelopment site by greater than or equal to 10% shall meet the requirements of Part 2.3.6(a)ii.(d) and Part 2.3.6(a)ii.(e) fully. ~~2.3.6.1 Permittees shall implement and enforce a program to address post construction stormwater runoff from new development and redevelopment projects that disturb one or more acres of land and discharge or will discharge into the MS4. Permittees authorized under the MS4 2003 shall continue to implement their existing programs and shall modify them as necessary to meet the requirements of this Part.~~

[1] Requirement necessary for Section 401 water quality certification by New Hampshire

2.3.6.2 The new development/redevelopment program shall include projects less than one acre if the project is part of a larger common plan of development or redevelopment which disturbs one or more acres.

2.3.6.3. The new development/redevelopment program shall include an ordinance or regulatory mechanism that regulates runoff from new development and redevelopment projects. Development of the ordinance or other regulatory mechanism was a requirement of the MS4-2003 (See MS4-2003 Part III.B.5) and was required to be effective by May 1, 2008.

The ordinance or other regulatory mechanism shall be amended or modified, as appropriate, within two (2) years of the effective date of the permit to require compliance with the design criteria set forth in the most recent version of the New Hampshire Stormwater Manual (http://des.nh.gov/organization/divisions/water/stormwater/manual.htm)

2.3.6.4. The permittee's new development/redevelopment program shall have procedures to ensure that any stormwater controls or management practices for new development and redevelopment will prevent or minimize impacts to water quality. These procedures may also include requirements to avoid disturbance of areas susceptible to erosion and sediment loss; requirements to preserve areas in the municipality that provide important water quality benefits; requirements to implement measures for flood control; and requirements to protect the integrity of natural resources. See related requirements for new and increased discharges in Part 2.1.2.

2.3.6.5 For projects subject to the ordinances required by this Part, the permittee shall require

b. For projects subject to the ordinances required by this Part the permittee shall require the submission of as-built drawings within a specified time frame, not to exceed one year from completion of construction projects. The as-built drawings must depict all on site controls designed to manage the stormwater associated with the completed site (post construction stormwater management). The new development/redevelopment program shall have procedures to ensure adequate long-term operation and maintenance of stormwater management practices that remain in place after the completion of a construction project. These procedures may include the use of dedicated funds or escrow accounts for development projects or the acceptance of ownership by the permittee of all privately owned BMPs. These procedures may also include the development of maintenance contracts between the owner of the BMP and the permittee. Alternatively, these procedures may include the submission of an annual certification documenting the work that has been done over the last 12 months to properly operate and maintain the stormwater control measures. The procedures to require submission of as-built drawings and ensure long term operation and maintenance shall be a part of the SWMP. The permittee shall report in the annual report on the measures that the permittee has utilized to meet this requirement.

2.3.6.6.c. Within two three (32) years of the effective date of this permit, the permittee shall develop a report assessing current street design and parking lot guidelines and other local requirements that affect the creation of impervious cover. This assessment shall be used to provide information to determine if the design standards for streets and parking lots can be modified to support low impact design options. If the assessment indicates that changes can be

made, the assessment shall include recommendations and proposed schedules to incorporate policies and standards into relevant documents and procedures to minimize impervious cover attributable to parking areas and street designs. The permittee shall involve any local planning boards and local transportation boards in this assessment to the extent feasible. The permittee shall report in each annual report on the status of this assessment including any planned or completed changes to local regulations and guidelines.

~~2.3.6.7.~~d. Within three (3) years from the effective date of the permit, the permittee shall develop a report assessing existing local regulations including, but not limited to, zoning and construction codes to determine the feasibility of making, at a minimum, the following green infrastructure practices allowable when appropriate site conditions exist:

1. Green roofs;
2. Infiltration practices such as rain gardens, curb extensions, planter gardens, porous and pervious pavements, and other designs to manage stormwater using landscaping and structured or augmented soils; and
3. Water harvesting devices such as rain barrels and cisterns, and the use of stormwater for non-potable uses.

The assessment should indicate whether and under what circumstances the practices are allowed in the MS4 jurisdiction. If the practices are not allowed, the permittee shall identify impediments to the use of these practices, and what changes in local regulations may be made to make them allowable. The permittee shall report in each annual report on its findings and progress towards making the practices allowable. (Information available at: http://www.epa.gov/region1/npdes/stormwater/assets/pdfs/AddressingBarrier2LID.pdf)

~~2.3.6.8 Directly Connected Impervious Area~~

~~a. The permittee shall estimate the annual increase or decrease in the number of acres of impervious area (IA) and directly connected impervious area (DCIA) draining to its MS4 and report those estimates in each annual report. The permittee shall tabulate its estimates by sub-basins. EPA recommends that the sub-basins be those included in the Level 6 Hydrologic Unit Boundaries for New Hampshire (http://www.granit.unh.edu). Alternatively, the permittee may tabulate its estimates by the catchments it has delineated pursuant to Part 2.3.4.8 .c.iii. of this permit or an alternative delineation of sub-basins.~~

~~For the purposes of this part, IA includes conventional pavements, sidewalks, driveways, roadways, parking lots, and rooftops. DCIA is the portion of IA with a direct hydraulic connection to the permittee's MS4 or a waterbody via continuous paved surfaces, gutters, pipes and other impervious features. DCIA typically does not include isolated impervious areas with an indirect hydraulic connection to the MS4 or that otherwise drain to a pervious area.~~

c~~b~~. ~~Two (2)~~Within four (4) years from the effective date of this permit, the permittee shall complete an inventory and priority ranking of permittee-owned property and existing infrastructure that could be retrofitted with BMPs designed to reduce the frequency, volume and pollutant loads of stormwater discharges to its MS4 through the mitigation of impervious area. Properties and infrastructure for consideration shall include those with the potential for mitigation of on-site IA and DCIA, as well as those that could provide mitigation of off-site

IA and DCIA. At a minimum, permittees shall consider municipal property with significant impervious cover (including parking lots, buildings, and maintenance yards) that could be mitigated, and open space and undeveloped land available to mitigate impervious cover and associated stormwater from proximate offsite properties. MS4 infrastructure to be considered includes existing street right-of-ways, outfalls and conventional stormwater conveyances and controls (including swales and detention practices) that could be readily modified to provide reduction in frequency, volume or pollutant loads of such discharges through the mitigation of impervious cover. The permittee may also include in its inventory properties and infrastructure that are privately-held or that do not contribute stormwater to its MS4.

The inventory and priority ranking shall, at minimum, be a screening level ranking that may be based on existing or readily obtainable data. In determining the potential for retrofitting particular properties, the permittee shall consider, on a screening level and subject to availability of data, factors such as access for maintenance purposes; subsurface geology; depth to water table; site slope and elevation; and proximity to aquifers and subsurface infrastructure including sanitary sewers and septic systems. The permittee may consider public safety when evaluating potential retrofits. In determining its priority ranking, the permittee shall consider, on a screening level and subject to availability of data, factors such as schedules for planned capital improvements to storm and sanitary sewer infrastructure and paving projects; current storm sewer level of service; and control of discharges to impaired waters, first or second order streams, and critical receiving waters; the complexity and cost of implementation; and opportunities for public use and education. For the purposes of this part, critical receiving waters include public swimming beaches, public drinking water supply sources, outstanding resource waters, cold water fisheries, and shellfish growing areas.

~~c. Beginning with the second year annual report and in each subsequent annual report, the permittee shall estimate for each sub-basin identified pursuant to Part 2.3.6.8.a. the number of acres of IA and DCIA draining to its MS4 that have been added or removed during the prior year. The permittee shall include in its estimates the additions or reductions resulting from development, redevelopment, or retrofit projects undertaken directly by the permittee; or by private developers and other parties.~~

Beginning with the ~~third~~ fourth year annual report and in each subsequent annual report, the permittee shall report on those permittee-owned properties and infrastructure inventoried pursuant to Part 2.3.6.e.~~.8.b~~. that have been retrofitted with BMPs to mitigate IA and DCIA. The permittee may also include in its annual report non-MS4 owned property that has been retrofitted with BMPs to mitigate IA and DCIA.

EPA is reopening the comment period for the 2013 draft New Hampshire small MS4 permit to take comments on new language in section 2.1.1, 2.2 (including all subsections), and 2.3.6 (including all subsections), Appendix F (excluding attachments) and Appendix H (excluding attachments) only, comments received pertaining to other sections of the 2013 draft MS4 permit will not be addressed prior to final issuance of the MS4 permit for New Hampshire. The following pages contain the proposed language for section 2.1.1, 2.2 (including all subsections), and 2.3.6 (including all subsections), and will completely replace the sections in the 2013 draft permit released February 12, 2013.

2.1.1 Requirement to Meet Water Quality Standards

a. The permittee shall reduce the discharge of pollutants such that the discharges from the MS4 do not cause or contribute to an exceedance of water quality standards.

b. If there is a discharge from the MS4 to a waterbody (or its tributaries in some cases) that is subject to an approved TMDL identified in Part 2.2.1, the permittee is subject to the requirements of Part 2.2.1 and Appendix F of this permit and the permittee shall comply with all applicable schedules and requirements in Appendix F. A permittee's compliance with all applicable requirements and BMP implementation schedules in Appendix F applicable to it will constitute compliance with Part 2.1.1.a. of the Permit.

c. If there is a discharge from the MS4 to a waterbody (or its tributaries in some cases) that is water quality limited (see definition in Appendix A) due to nutrients (nitrogen or phosphorus), metals, solids, bacteria/pathogens, chloride or oil and grease (hydrocarbons) and is not subject to an approved TMDL, or the MS4 is located within a municipality listed in Part 2.2.2.a.-b., the permittee is subject to the requirements of Part 2.2.2 and Appendix H of this permit and the permittee shall comply with all applicable schedules and requirements in Appendix H. A permittee's compliance with all applicable requirements and BMP implementation schedules in Appendix H applicable to it will constitute compliance with Part 2.1.1.a. of the Permit.

d. Except where a discharge is subject to the requirements of Part 2.2.1 and/or Part 2.2.2 of this permit and the permittee is complying with all applicable requirements of Part 2.2.1 and Appendix F and/or 2.2.2, and Appendix H, if there is a discharge from the MS4 that is causing or contributing to a violation of applicable water quality standards (including numeric and narrative water quality criteria) for the receiving water (applicable water quality standards are the state standards that have been federally approved as of the effective date of this permit and are compiled at http://www.epa.gov/waterscience/standards/wqslibrary/), the permittee shall, as expeditiously as possible, but no later than 60 days of becoming aware of the situation, eliminate the condition causing or contributing to an exceedance of water quality standards. Where elimination of the condition causing or contributing to an exceedance of water quality standards within 60 days of its identification is not possible, the permittee shall establish an expeditious schedule for elimination and report the dates of identification and schedules for removal in the permittee's annual reports. The permittee shall immediately commence actions necessary for elimination. The permittee shall diligently pursue elimination of all conditions causing or contributing to an exceedance of water quality standards.

2.2 Discharges to Certain Impaired Waters

The permittee shall identify in the SWMP and Annual Reports all discharges, including both outfalls and interconnections to other MS4 or other separate storm sewer systems, that:

- Are subject to an approved Total Maximum Daily Load (TMDL) as identified in Part 2.2.1;
- Are subject to additional requirements to protect water quality as identified in Part 2.2.2.

The discharge location from an interconnection shall be determined based on the receiving water of the outfall from the interconnected system.

2.2.1 Discharges Subject to Requirements Related to an Approved TMDL

a. "Approved TMDLs" for discharges from the permittee's MS4 are those that have been approved by EPA as of the effective date of this permit

b. For those TMDLs that specify a wasteload allocation or other requirements either individually or categorically for the MS4 discharge, the permittee shall comply with the terms of Part 2.1 and 2.2 and satisfy the appropriate requirements of Appendix F. Appendix F identifies, by section, the provisions and schedules the permittee shall comply with to be consistent with the terms of the approved TMDL. Alternatively, EPA may notify the permittee that an individual permit application is necessary in accordance with Part 1.8.

c. The "TMDL for 158 Acid Impaired Ponds and 21 Aluminum Impaired Lakes" does not specify a wasteload allocation or other requirements either individually or categorically for the MS4 discharges and specifies that load reductions are to be achieved through reduction in atmospheric deposition sources. No requirements related to this TMDL are imposed on MS4 discharges under this Part. However, if the permittee becomes aware, or EPA or NHDES determines, that an MS4 discharge is causing or contributing to such impairment to an extent that cannot be explained by atmospheric deposition (e.g. chemical spill, acid landfill leachate or other sources), the permittee shall comply with the requirements of Part 2.1.1.d.

d. The following is a list of municipalities that contain waters subject to an approved TMDL for chlorides:

1.

DERRY
LONDONDERRY
SALEM
WINDHAM

The operators of MS4s located in municipalities listed above that discharge to Beaver Brook, Dinsmore Brook, North Tributary to Canobie Lake, or Policy-Porcupine Brook and any other MS4 that discharges directly to Beaver Brook, Dinsmore Brook, North Tributary to Canobie Lake, or Policy-Porcupine Brook shall meet the requirements of Appendix F Part I with respect to reduction of chloride discharges from their MS4.

e. The following is a list of municipalities that contain waters subject to an approved TMDL for bacteria or pathogens.

1.

AMHERST	MANCHESTER
BEDFORD	MERRIMACK
CHESTER	MILFORD

DERRY	MILTON
DOVER	NASHUA
DURHAM	NEW CASTLE
EXETER	NEWINGTON
FARMINGTON	NORTH HAMPTON
GOFFSTOWN	PELHAM
GREENLAND	PLAISTOW
HAMPSTEAD	PORTSMOUTH
HAMPTON	ROCHESTER
HAMPTON FALLS	ROLLINSFORD
HOLLIS	RYE
HOOKSETT	SALEM
HUDSON	SANDOWN
KINGSTON	SEABROOK
LEE	SOMERSWORTH
MADBURY	

The operators of MS4s located in municipalities listed above that discharge to a waterbody segment listed on Table F-1 in Appendix F and any other MS4 that discharges directly to a waterbody segment listed on Table F-1 in Appendix F shall meet the requirements of Appendix F, Part II with respect to reduction of bacteria/pathogens discharges from their MS4.

f. The following is a list of municipalities that contain a lake or pond subject to an approved lake or pond phosphorus TMDL,

1.

AMHERST
BEDFORD
DERRY
HOLLIS
HUDSON
KINGSTON
MANCHESTER
MERRIMACK
RAYMOND
SANDOWN

Permittees that operate regulated MS4s in the above municipalities that discharge to waterbodies listed on Table F-2 in Appendix F or their tributaries, and any other MS4 that discharges to waterbodies listed on Table F-2 in Appendix F or their tributaries, shall meet the requirements of Appendix F, Part A.II with respect to reduction of phosphorus discharges from their MS4.

2.2.2 Discharge to Certain Water Quality Limited Waters without an Approved TMDL

For purposes of this permit, a 'water quality limited water body' is any water body that does not meet

applicable water quality standards, including but not limited to waters listed in categories 5 or 4b on the most recent EPA approved New Hampshire Clean Water Act section 303(d) list or New Hampshire Integrated Report under Clean Water Act section 305(b).

If there is a discharge from the MS4 to a water quality limited waterbody where pollutants typically found in stormwater (specifically nutrients (nitrogen or phosphorus), solids, bacteria/pathogens, chloride, metals and oil and grease (hydrocarbons)) are the cause of the impairment and there is not an approved TMDL, or the MS4 is located in a town listed in Part 2.2.2.a.-b. the permittee shall comply with the provisions in Appendix H applicable to it.

In the absence of a defined pollutant reduction target and where no approved TMDL has been established, this permit Part and Appendix H define an iterative approach addressing pollutant reductions to waterbodies where the permittee's discharge is causing or contributing to an excursion above water quality standards due to nutrients (nitrogen or phosphorus), solids, bacteria/pathogens, chloride, metals or oil and grease (hydrocarbons).

a. Discharges to water quality limited waterbodies where nitrogen is the cause of the impairment, or their tributaries

i. The requirements of this Part are applicable to:

1. Permittees (including traditional and non-traditional MS4s) that own or operate an MS4 in the following municipalities. Discharges from MS4s within these municipalities are to waterbodies that are impaired due to nitrogen, or their tributaries.

BARRINGTON
BRENTWOOD
CANDIA
CHESTER
DANVILLE
DERRY
DOVER
DURHAM
EAST KINGSTON
EPPING
EXETER
FREMONT
GREENLAND
HAMPSTEAD
HAMPSTON FALLS
KENSINGTON
KINGSTON
LEE
MADBURY
MILTON
NEWFIELDS
NEWINGTON

NEWMARKET
NORTH HAMPTON
PORTSMOUTH
RAYMOND
ROCHESTER
ROLLINSFORD
SANDOWN
SOMERSWORTH
STRATHAM

2. Any other permittee that, during the permit term, becomes aware that its discharge is to a waterbody that is impaired due to nitrogen, or a tributary of such water.

ii. Permittees subject to Part 2.2.2.a.i above shall meet the requirements of Appendix H Part I with respect to the control of nitrogen discharges from their MS4;

b. Discharges to water quality limited waterbodies where phosphorus is the cause of the impairment, or their tributaries

i. The requirements of this Part are applicable to:

1. Permittees (including traditional and non-traditional MS4s) that own or operate an MS4 in the following municipalities. Discharges from MS4s within these municipalities are to waterbodies that are impaired due to phosphorus, or their tributaries.

ATKINSON
DERRY
DOVER
GOFFSTOWN
HAMPSTEAD
KINGSTON
LITCHFIELD
MANCHESTER
PELHAM
RAYMOND
ROLLINSFORD
SALEM
SANDOWN
SOMERSWORTH
WINDHAM

2. Any other permittee that, during the permit term, becomes aware that its discharge is to a waterbody that is water quality limited due to phosphorus, or to a tributary of such water.

ii. The permittees subject to Part 2.2.2.b.i. above shall meet all requirements of Appendix H Part II with respect to the control of phosphorus discharges from the MS4.

c. Discharges to water quality limited waterbodies where bacteria or pathogens is the cause of the impairment

i. The requirements of this Part are applicable to:

1. Permittees (including traditional and non-traditional MS4s) that own or operate an MS4 in the following municipalities. Discharges from MS4s within these municipalities are to waterbodies that are impaired due to bacteria or pathogens.

DERRY
EXETER
HOLLIS
HUDSON
KINGSTON
MANCHESTER
MILTON
NEW CASTLE
NORTH
HAMPTON
ROCHESTER
RYE
SALEM
WINDHAM

2. Any other permittee that, during the permit term, becomes aware that its discharge is to a waterbody that is water quality limited due to bacteria or pathogens

ii. The permittees subject to Part 2.2.2.c.i. shall meet all requirements of Appendix H Part III with respect to reduction of bacteria or pathogens discharges from the MS4.

d. Discharges to water quality limited waterbodies where chloride is the cause of the impairment

i. The requirements of this Part are applicable to:

1. Permittees (including traditional and non-traditional MS4s) that own or operate an MS4 in the following municipalities. Discharges from MS4s within these municipalities are to waterbodies that are impaired due to chloride.

BEDFORD
DERRY
DOVER
DURHAM
EXETER
GOFFSTOWN
GREENLAND
HOOKSETT

LONDONDERRY
MANCHESTER
NASHUA
PORTSMOUTH
RYE
SALEM
SEABROOK
STRATHAM

2. Any other permittee that, during the permit term, becomes aware that its discharge is to a waterbody that is water quality limited due to chloride.

ii. The permittees subject to Part 2.2.2.d.i. shall meet all requirements of Appendix H Part IV with respect to reduction of chloride discharges from the MS4.

e. Discharges to water quality limited waterbodies where oil and grease (hydrocarbons), solids or metals is the cause of the impairment

i. The requirements of this Part are applicable to:

1. Permittees (including traditional and non-traditional MS4s) that own or operate an MS4 in the following municipalities. Discharges from MS4s within these municipalities are to waterbodies that are impaired due to solids, oil and grease (hydrocarbons) or metals.

EXETER
GOFFSTOWN
HAMPTON
LONDONDERRY
MANCHESTER
PORTSMOUTH
STRATHAM

2. Any other permittee that, during the permit term, becomes aware that its discharge is to a waterbody that is water quality limited due to

ii. The permittees subject to Part 2.2.2.d.i. shall meet all requirements of Appendix H Part V with respect to reduction of solids, oil and grease (hydrocarbons) or metals discharges from the MS4.

2.3.6 Stormwater Management in New Development and Redevelopment (Post Construction Stormwater Management)

Objective: The objective of this control measure is for the permittee to ensure that within their MS4 area, hydrology resulting from new development will approximate the pre-development hydrology of the site or improve the hydrology of a redeveloped site and reduce the discharge of stormwater pollutants.

a. Permittees shall develop, implement, and enforce a program to address post-construction stormwater runoff from all new development and redevelopment projects that disturb one or more acres and discharge into the permittees MS4 (at a minimum). Permittees authorized under the MS4-2003 permit shall continue to implement and enforce their program and modify as necessary to meet the requirements of this Part.

i. The permittee's new development/ redevelopment program shall include projects less than one acre if the project is part of a larger common plan of development or redevelopment which disturbs one or more acre.

ii. The permittee shall develop or modify, as appropriate, an ordinance or other regulatory mechanism within two (2) years of the effective date of the permit to contain provisions that are as least as stringent as the following:

(a).Low Impact Development (LID) site planning and design strategies must be used to the maximum extent feasible in order to reduce the discharge of stormwater from new development.

(b).Salt storage areas on commercial and industrial developments shall be covered and loading/offloading areas shall be designed and maintained in accordance with NHDES published guidance. Snow storage areas shall be located in accordance with NHDES published guidance such that no direct untreated discharges to receiving waters are possible from the storage site. Runoff from snow and salt storage areas shall enter treatment areas as specified above before being discharged to receiving waters or allowed to infiltrate into the groundwater. See NHDES published guidance fact sheets on road salt and water quality, and snow disposal at http://des.nh.gov/organization/commissioner/pip/factsheets/wmb/index.htm.

(c).The selection and design of treatment and infiltration practices should follow the guidance in Volume 2 (Post-Construction Best Management Practices Selection & Design) of the New Hampshire Stormwater Manual as amended, where applicable.

(d).Stormwater management systems on new and redeveloped sites shall be designed to:
(1) Remove pollutants in accordance with Env-Wq 1507.03;
(2) Recharge groundwater in accordance with Env-Wq 1507.04[1];
(3) Protect channels in accordance with Env-Wq 1507.05[1];
(4) Control peak runoff rates in accordance with Env-Wq 1507.06[1]; and
(5) Implement long term maintenance practices in accordance with Env-Wq 1507.08.

(e).Stormwater management systems on redevelopment sites shall be designed to retain or treat runoff from the disturbed portion of the redevelopment site. In accordance with Part 2.3.6(a)ii.(d), offsite mitigation within the same USGS HUC10 as the redevelopment site may be used to meet the pollutant removal equivalent of the requirements in Part 2.3.6(a)ii.(d)(1) and the equivalent groundwater recharge requirements of Part 2.3.6(a)ii.(d)(2).

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[1] Requirement necessary for Section 401 water quality certification by New Hampshire

(f).Redevelopment that disturbs equal to or greater than 1 acre and exclusively involves maintenance and improvement of existing roadways, including road widening that increases the total road width by less than 10%, shall improve existing conditions where feasible and are exempt from Part 2.3.6(a)ii.(d). Roadway widening or improvements that increase the amount of impervious area on the redevelopment site by greater than or equal to 10% shall meet the requirements of Part 2.3.6(a)ii.(d) and Part 2.3.6(a)ii.(e) fully.

b. For projects subject to the ordinances required by this Part the permittee shall require the submission of as-built drawings within a specified time frame, not to exceed one year from completion of construction projects. The as-built drawings must depict all on site controls designed to manage the stormwater associated with the completed site (post construction stormwater management). The new development/redevelopment program shall have procedures to ensure adequate long-term operation and maintenance of stormwater management practices that remain in place after the completion of a construction project. These procedures may include the use of dedicated funds or escrow accounts for development projects or the acceptance of ownership by the permittee of all privately owned BMPs. These procedures may also include the development of maintenance contracts between the owner of the BMP and the permittee. Alternatively, these procedures may include the submission of an annual certification documenting the work that has been done over the last 12 months to properly operate and maintain the stormwater control measures. The procedures to require submission of as-built drawings and ensure long term operation and maintenance shall be a part of the SWMP. The permittee shall report in the annual report on the measures that the permittee has utilized to meet this requirement.

c. Within three (3) years of the effective date of this permit, the permittee shall develop a report assessing current street design and parking lot guidelines and other local requirements that affect the creation of impervious cover. This assessment shall be used to provide information to determine if the design standards for streets and parking lots need to be updated and can be modified to support low impact design options. If the assessment indicates that changes can be made, the assessment shall include recommendations and proposed schedules to incorporate policies and standards into relevant documents and procedures to minimize impervious cover attributable to parking areas and street designs. The permittee shall involve any local planning boards and local transportation boards in this assessment to the extent feasible. The permittee shall report in each annual report on the status of this assessment including progress towards meeting the milestones in the schedule for implementation of recommendations of the assessment planned or completed changes to local regulations and guidelines.

d. Within three (3) years from the effective date of the permit, the permittee shall develop a report assessing existing local regulations including, but not limited to, zoning and construction codes to determine the feasibility of making, at a minimum, the following green infrastructure practices allowable when appropriate site conditions exist:

1. Green roofs;
2. Infiltration practices such as rain gardens, curb extensions, planter gardens, porous and pervious pavements, and other designs to manage stormwater using landscaping and structured or augmented soils; and
3. Water harvesting devices such as rain barrels and cisterns, and the use of stormwater for non-potable uses.

The assessment should indicate whether and under what circumstances the practices are allowed in the MS4 jurisdiction. If the practices are not allowed, the permittee shall identify impediments to the use of these practices, and what changes in local regulations may be made to make them allowable including a schedule for implementation of changes to local regulations. The permittee shall report in each

annual report on its findings and progress towards meeting the milestones in the schedule for implementation of recommendations of the assessment. (Information available at: http://www.epa.gov/region1/npdes/stormwater/assets/pdfs/AddressingBarrier2LID.pdf)

e. Within four (4) years from the effective date of this permit, the permittee shall complete an inventory and priority ranking of permittee-owned property and existing infrastructure that could be retrofitted with BMPs designed to reduce the frequency, volume and pollutant loads of stormwater discharges to its MS4 through the mitigation of impervious area. Properties and infrastructure for consideration shall include those with the potential for mitigation of on-site IA and DCIA, as well as those that could provide mitigation of off-site IA and DCIA. At a minimum, permittees shall consider municipal property with significant impervious cover (including parking lots, buildings, and maintenance yards) that could be mitigated, and open space and undeveloped land available to mitigate impervious cover and associated stormwater from proximate offsite properties. MS4 infrastructure to be considered includes existing street right-of-ways, outfalls and conventional stormwater conveyances and controls (including swales and detention practices) that could be readily modified to provide reduction in frequency, volume or pollutant loads of such discharges through the mitigation of impervious cover. The permittee may also include in its inventory properties and infrastructure that are privately-held or that do not contribute stormwater to its MS4.

The inventory and priority ranking shall, at minimum, be a screening level ranking that may be based on existing or readily obtainable data. In determining the potential for retrofitting particular properties, the permittee shall consider, on a screening level and subject to availability of data, factors such as access for maintenance purposes; subsurface geology; depth to water table; site slope and elevation; and proximity to aquifers and subsurface infrastructure including sanitary sewers and septic systems. The permittee may consider public safety when evaluating potential retrofits. In determining its priority ranking, the permittee shall consider, on a screening level and subject to availability of data, factors such as schedules for planned capital improvements to storm and sanitary sewer infrastructure and paving projects; current storm sewer level of service; and control of discharges to impaired waters, first or second order streams, and critical receiving waters; the complexity and cost of implementation; and opportunities for public use and education. For the purposes of this part, critical receiving waters include public swimming beaches, public drinking water supply sources, outstanding resource waters, cold water fisheries, and shellfish growing areas.

Beginning with the third year annual report and in each subsequent annual report, the permittee shall report on those permittee-owned properties and infrastructure inventoried pursuant to Part 2.3.6.e.. that have been retrofitted with BMPs to mitigate IA and DCIA. The permittee may also include in its annual report non-MS4 owned property that has been retrofitted with BMPs to mitigate IA and DCIA.

EPA is reopening the comment period for the 2013 draft New Hampshire small MS4 permit to take comments on new language in section 2.1.1, 2.2 (including all subsections), and 2.3.6 (including all subsections), Appendix F (excluding attachments) and Appendix H (excluding attachments) only, comments received pertaining to other sections of the 2013 draft MS4 permit will not be addressed prior to final issuance of the MS4 permit for New Hampshire. The following pages contain the proposed language Appendix F (excluding attachments), and will completely replace Appendix F(excluding attachments) of the 2013 draft permit released February 12, 2013.

APPENDIX F

Requirements Related to Approved Total Maximum Daily Loads

Table of Contents

I. Chloride TMDLs

Beaver Brook[1]; Dinsmore Brook[2]; North Tributary to Canobie Lake[3]; Policy-Porcupine Brook[4]

- Municipalities: Derry, Londonderry, Salem and Windham; and non-traditional and transportation MS4s discharging to these waterbodies
- Water Quality Goal of TMDLs: The goal for these TMDL is for the chloride concentrations in the affected water bodies to meet State of New Hampshire surface water quality criteria for Class B waterbodies. According to Env-Ws 1703.21, the water quality criteria for chloride in nontidal Class B waterbodies to protect aquatic life is that concentrations should not exceed 860 mg/L for acute exposures or 230 mg/L for chronic exposures. Acute aquatic life criteria are based on an average concentration over a one-hour period and chronic criteria are based on an average concentration over a period of four days (EPA, 1991) The frequency of violations for either acute or chronic criteria should not be more than once every three years, on average (EPA, 1991).
- Goal of the Implementation Plan: To meet the load allocations as determined by NHDES through reduced deicing loads.
- Measures to address the TMDLs: Permittees that operate regulated MS4s located within these municipalities that discharge to the identified impaired waters must reduce chloride discharges to support achievement of the WLA included in the approved TMDLs. For this purpose, the permittee shall develop a Salt Reduction Plan that includes specific actions designed to achieve salt reduction on municipal roads and facilities, and on private facilities that drain to the MS4. The Salt Reduction Plan shall be completed within one (1) year of the effective date of the permit and shall include, at a minimum:

a. For municipally maintained surfaces:

(i) Tracking of the amount of salt applied to all municipally owned and maintained surfaces and reporting of salt use using the UNH Technology Transfer Center online tool (http://www.roadsalt.unh.edu/Salt/) beginning in the year 2 annual report;
(ii) Planned activities for salt reduction on municipally owned and maintained surfaces, which may include but are not limited to:

- Operational changes such as pre-wetting, pre-treating the salt stockpile, increasing plowing prior to de-icing, monitoring of road surface temperature, etc.;

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[1] Total Maximum Daily Load (TMDL) Study For Waterbodies in the Vicinity of the I-93 Corridor from Massachusetts to Manchester, NH: Beaver Brook in Derry and Londonderry, NH (2008)
[2] Total Maximum Daily Load (TMDL) Study For Waterbodies in the Vicinity of the I-93 Corridor from Massachusetts to Manchester, NH: Dinsmore Brook in Windham, NH (2008)
[3] Total Maximum Daily Load (TMDL) Study For Waterbodies in the Vicinity of the I-93 Corridor from Massachusetts to Manchester, NH: North Tributary to Canobie Lake in Windham, NH (2008)
[4] Total Maximum Daily Load (TMDL) Study For Waterbodies in the Vicinity of the I-93 Corridor from Massachusetts to Manchester, NH: Policy-Porcupine Brook in Salem and Windham, NH (2008)

- Implementation of new or modified equipment providing pre-wetting capability, better calibration rates, or other capability for minimizing salt use;
- Training for municipal staff and/or contractors engaged in winter maintenance activities;
- Adoption of guidelines for application rates for roads and parking lots (see NHDES, Chloride Reduction Implementation Plan for Dinsmore Brook, App. J and K (February 2011), http://des.nh.gov/organization/commissioner/pip/publications/wd/documents/wd-11-13.pdf ;: Winter Parking Lot and Sidewalk Maintenance Manual (Revised edition June 2008) http://www.pca.state.mn.us/publications/parkinglotmanual.pdf; and the application guidelines on page 17 of Minnesota Snow and Ice Control: Field Handbook for Snow Operators (September 2012) http://www.mnltap.umn.edu/publications/handbooks/documents/snowice.pdf for examples);
- Regular calibration of spreading equipment;
- Designation of no-salt and/or low salt zones;
- Public education regarding impacts of salt use, methods to reduce salt use on private property, modifications to driving behavior in winter weather, etc.; and
- Measures to prevent exposure of salt stockpiles (if any) to precipitation and runoff; and

(iii) An estimate of the total tonnage of salt reduction expected by each activity; and

(iv) A schedule for implementation of planned activities including immediate implementation of operational and training measures, continued annual progress on other measures, and full implementation of the Plan by the end of the permit term.

b. For privately maintained facilities that drain to the MS4:

(i) Identification of private parking lots with 10 or more parking spaces draining to the MS4;

(ii) Requirements for private parking lot owners and operators and private street owners and operators (1) that any commercial salt applicators used for applications of salt to their parking lots or streets be trained and certified in accordance with Env-Wq 2203, and (2) to report annual salt usage within the municipal boundaries using the UNH Technology Transfer Center online tool (http://www.roadsalt.unh.edu/Salt/).

(iii) Requirements for new development and redevelopment to minimize salt usage, and to track and report amounts used using the UNH Technology Transfer Center online tool (http://www.roadsalt.unh.edu/Salt/).

II. Bacteria TMDLs

Hampton/Seabrook Harbor[5]

- Municipalities: Hampton and Seabrook; and non-traditional and transportation MS4s discharging to these waterbodies
- Water Quality Goal of TMDL: The goal for this TMDL is for the bacteria concentrations throughout Hampton/Seabrook Harbor to meet the water quality standards for the designated uses of the water body that are affected by bacteria. These uses include shellfishing, primary contact recreation (swimming), and secondary contact recreation (boating). The water quality standard is the most stringent for shellfishing: a geometric mean for fecal coliform of less than 14 MPN/100 ml and a 90th percentile of less than 43 MPN/100 ml as determined using National Shellfish Sanitation Program (NSSP) protocols (RSA 485A: 8, V; ISSC, 1999). A 47 percent reduction in the total bacteria loading is necessary to meet the TMDL.
- Goal of the Implementation Plan: To remove all human sources of bacteria to the estuary to the extent practicable.

Little Harbor[6]

- Municipalities: New Castle, Portsmouth and Rye; and non-traditional and transportation MS4s discharging to these waterbodies
- Water Quality Goal of the TMDL: The goal for this TMDL is for the bacteria concentration in the Little Harbor assessment unit to meet the water quality standards for the designated uses of the water body that are affected by bacteria. These uses include shellfishing, primary contact recreation (swimming), and secondary contact recreation (boating). The water quality standard is the most stringent for shellfishing: a geometric mean for fecal coliform of less than 14 MPN/100 ml and a 90th percentile of less than 43 MPN/100 ml as determined using National Shellfish Sanitation Program (NSSP) protocols (RSA 485A: 8, V; ISSC, 1999). The bacteria load to Little Harbor must be reduced by 12 percent to achieve the goal of the TMDL.
- Goal of the Implementation Plan: To achieve water quality standards for bacteria in the Little Harbor assessment unit and to characterize the bacteria concentrations and bacteria sources in the Berrys Brook/ Witch Creek assessment unit.

Bacteria Impaired Waters Statewide (Table F-1)[7] and 58 Beach Bacteria Impaired Waters (Table F-1)[8]

- Municipalities: see Table F-1; includes non-traditional and transportation MS4s discharging to those waterbody assessment segments listed on Table F-1
- Water Quality Goal of the TMDL: The goal for this TMDL is for the bacteria concentration in each waterbody to meet the water quality standards for the designated uses of the water body that are affected by bacteria. These uses include shellfishing, primary contact recreation (swimming), and secondary contact recreation (boating).

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[5] Hampton/Seabrook Harbor Bacteria TMDL, May 2004
[6] Little Harbor Bacteria TMDL, June 2006
[7] Final Report New Hampshire Statewide TMDL for Bacteria Impaired Waters (2010)
[8] Final Report TMDL Report for 58 Bacteria Impaired Waters in New Hampshire (2011)

- Goal of the Implementation Plan: The implementation plan incorporated within the TMDL Report provides general guidance for addressing water pollution caused by pathogenic bacteria in New Hampshire's surface waters. It recommends that implementation be conducted on a watershed basis and that more specific watershed plans be developed, where appropriate, to focus and prioritize appropriate restoration measures.

A. Measures to address Bacteria TMDLs listed above:

The operators of MS4s listed above or in Tables F-1 shall implement the Additional or Enhanced BMPs below to reduce bacteria or pathogen discharges from their MS4:

1) Additional or Enhanced BMPs

i. The permittee remains subject to the requirements of Part 2.3. of the permit and shall include the following enhancements to the BMPs required by Part 2.3 of the permit:

1. Part 2.3.3. Public Education: In addition to Public Education requirements of Part 2.3.3 and/or Appendix H Part I or II., the permittee or its agents shall disseminate educational materials to dog owners at the time of issuance or renewal of a dog license, or other appropriate time. Education materials shall describe the detrimental impacts of improper management of pet waste, requirements for waste collection and disposal, and penalties for non-compliance. The permittee shall also provide information to owners of septic systems about proper maintenance in any catchment that discharges to a water body impaired for bacteria or pathogens.

2. Part 2.3.4 Illicit Discharge: The permittee shall implement the illicit discharge program required by this permit. Catchments draining to any waterbody impaired for bacteria or pathogens shall be designated either Problem Catchments or HIGH priority in implementation of the IDDE program.

Primary Town	Waterbody Name	Assessment Unit #	Impairment
AMHERST	BABOOSIC LAKE	NHLAK700060905-01-01	Escherichia coli
AMHERST	BABOOSIC LAKE - TOWN BEACH	NHLAK700060905-01-02	Escherichia coli
AMHERST	SOUHEGAN RIVER	NHRIV700060906-16	Escherichia coli
BEDFORD	PATTEN BROOK	NHRIV700060803-12	Escherichia coli
BEDFORD	RIDDLE BROOK	NHRIV700060905-18	Escherichia coli
BEDFORD	MCQUADE BROOK	NHRIV700060905-13	Escherichia coli

Primary Town	Waterbody Name	Assessment Unit #	Impairment
CHESTER	TOWLE BROOK - TO PANDOLPIN DAM	NHRIV600030802-10	Escherichia coli
DERRY	ISLAND POND - CHASE'S GROVE	NHLAK700061101-01-02	Escherichia coli
DERRY	BEAVER LAKE - GALLIEN'S BEACH	NHLAK700061203-02-02	Escherichia coli
DERRY	HOODS POND - TOWN BEACH	NHLAK700061203-03-02	Escherichia coli
DERRY	RAINBOW LAKE - KAREN-GENA BEACH	NHLAK700061203-05-02	Escherichia coli
DERRY	BEAVER BROOK	NHRIV700061203-09	Escherichia coli
DOVER	SALMON FALLS RIVER	NHEST600030406-01	Enterococcus
DOVER	SALMON FALL RIVER	NHEST600030406-01	Fecal colilform
DOVER	COCHECO RIVER	NHEST600030608-01	Enterococcus
DOVER	COCHECO RIVER	NHEST600030608-01	Fecal colilform
DOVER	BELLAMY RIVER NORTH	NHEST600030903-01-01	Fecal Coliform
DOVER	BELLAMY RIVER SOUTH	NHEST600030903-01-02	Enterococcus
DOVER	BELLAMY RIVER SOUTH	NHEST600030903-01-02	Fecal Coliform
DOVER	UPPER PISCATAQUA RIVER-NH-NORTH	NHEST600031001-01-01	Fecal colilform
DOVER	DOVER WWTF SZ-NH	NHEST600031001-01-02	Enterococcus
DOVER	UPPER PISCATAQUA RIVER-NH-SOUTH	NHEST600031001-01-03	Fecal colilform
DOVER	COCHECO RIVER - WATSON-WALDRON DAM POND	NHIMP600030608-02	Escherichia coli
DOVER	COCHECO RIVER - CENTRAL AVE DAM	NHIMP600030608-04	Escherichia coli
DOVER	BELLAMY RIVER - SAWYERS MILL DAM POND	NHIMP600030903-02	Escherichia coli
DOVER	FRESH CREEK POND	NHLAK600030608-01	Escherichia coli
DOVER	BLACKWATER BROOK-CLARK BROOK	NHRIV600030608-02	Escherichia coli
DOVER	COCHECO RIVER	NHRIV600030608-03	Escherichia coli
DOVER	REYNERS BROOK	NHRIV600030608-04	Escherichia coli
DOVER	COCHECO RIVER	NHRIV600030608-05	Escherichia coli
DOVER	INDIAN BROOK	NHRIV600030608-06	Escherichia coli
DOVER	BERRY BROOK	NHRIV600030608-15	Escherichia coli
DOVER	JACKSON BROOK	NHRIV600030608-16	Escherichia coli
DOVER	BELLAMY RIVER	NHRIV600030903-09	Escherichia coli

Primary Town	Waterbody Name	Assessment Unit #	Impairment
DOVER	VARNEY BROOK - CANNEY BROOK	NHRIV600030903-11	Escherichia coli
DOVER	GARRISON BROOK	NHRIV600030903-13	Escherichia coli
DURHAM	OYSTER RIVER	NHEST600030902-01-03	Enterococcus
DURHAM	CROMMENT CREEK	NHEST600030904-04-02	Fecal Coliform
DURHAM	ADAMS POINT SOUTH - COND APP	NHEST600030904-04-06	Enterococcus
DURHAM	ADAMS POINT SOUTH - COND APP	NHEST600030904-04-06	Fecal Coliform
DURHAM	ADAMS POINT TRIB	NHEST600030904-06-11	Fecal Coliform
DURHAM	OYSTER RIVER MOUTH	NHEST600030904-06-17	Fecal Coliform
DURHAM	OYSTER RIVER	NHIMP600030902-04	Escherichia coli
DURHAM	BEARDS CREEK	NHIMP600030902-06	Escherichia coli
DURHAM	OYSTER RIVER	NHRIV600030902-05	Escherichia coli
DURHAM	LONGMARSH BROOK - BEAUDETTE BROOK	NHRIV600030902-06	Escherichia coli
DURHAM	HAMEL BROOK	NHRIV600030902-08	Escherichia coli
DURHAM	COLLEGE BROOK	NHRIV600030902-09	Escherichia coli
DURHAM	RESERVOIR BROOK	NHRIV600030902-10	Escherichia coli
DURHAM	LITTLEHOLE CREEK	NHRIV600030902-11	Escherichia coli
EXETER	EXETER RIVER - EXETER RIVER DAM I	NHIMP600030805-04	Escherichia coli
EXETER	EXETER RIVER	NHRIV600030805-02	Escherichia coli
EXETER	NORRIS BROOK	NHRIV600030806-01	Escherichia coli
FARMINGTON	MAD RIVER	NHRIV600030601-08	Escherichia coli
GOFFSTOWN	GLEN LAKE - PUBLIC (STATE OWNED) BEACH	NHLAK700060607-01-02	Escherichia coli
GOFFSTOWN	NAMASKE LAKE	NHLAK700060607-02	Escherichia coli
GOFFSTOWN	HARRY BROOK	NHRIV700060607-15	Escherichia coli
GOFFSTOWN	CATAMOUNT BROOK	NHRIV700060607-20	Escherichia coli
GREENLAND	WINNICUT RIVER	NHEST600030904-01	Fecal colilform
GREENLAND	UNKNOWN RIVER - WINNICUT RIVER DAM POND	NHIMP600030901-02	Escherichia coli
GREENLAND	WINNICUT RIVER-BARTON BROOK-MARSH BROOK-THOMPSON BROOK	NHRIV600030901-02	Escherichia coli
GREENLAND	HAINES BROOK	NHRIV600030901-03	Escherichia coli
GREENLAND	NORTON BROOK	NHRIV600030901-06	Escherichia coli
GREENLAND	FOSS BROOK	NHRIV600030904-05	Escherichia coli
GREENLAND	SHAW BROOK	NHRIV600030904-13	Escherichia coli
GREENLAND	UNNAMED BROOK	NHRIV600030904-21	Escherichia coli

Primary Town	Waterbody Name	Assessment Unit #	Impairment
HAMPSTEAD	WASH POND - TOWN BEACH	NHLAK700061101-03-02	Escherichia coli
HAMPSTEAD	SUNSET LAKE - SUNSET PARK BEACH	NHLAK700061101-03-03	Escherichia coli
HAMPTON	TAYLOR RIVER	NHEST600031003-03	Fecal Coliform
HAMPTON	HAMPTON FALLS RIVER	NHEST600031004-01-03	Fecal Coliform
HAMPTON	TAYLOR RIVER (LOWER)	NHEST600031004-02-02	Fecal Coliform
HAMPTON	HAMPTON RIVER MARINA SZ	NHEST600031004-09-08	Enterococcus
HAMPTON	ATLANTIC OCEAN - HAMPTON BEACH STATE PARK BEACH	NHOCN000000000-02-10	Enterococcus
HAMPTON FALLS	TAYLOR RIVER	NHEST600031003-02	Fecal Coliform
HOLLIS	SILVER LAKE - STATE PARK BEACH	NHLAK700061001-02-02	Escherichia coli
HOLLIS	WITCHES BROOK	NHRIV700061001-02	Escherichia coli
HOOKSETT	MERRIMACK RIVER	NHRIV700060802-14-02	Escherichia coli
HOOKSETT	MESSER BROOK	NHRIV700060802-09	Escherichia coli
HUDSON	ROBINSON POND	NHLAK700061203-06-01	Escherichia coli
HUDSON	ROBINSON POND - TOWN BEACH	NHLAK700061203-06-02	Escherichia coli
HUDSON	LAUNCH BROOK	NHRIV700061203-26	Escherichia coli
KINGSTON	COUNTRY POND - LONE TREE SCOUT RESV. BEACH	NHLAK700061403-03-03	Escherichia coli
KINGSTON	GREAT POND - KINGSTON STATE PARK BEACH	NHLAK700061403-06-02	Escherichia coli
KINGSTON	GREAT POND - CAMP BLUE TRIANGLE BEACH	NHLAK700061403-06-03	Escherichia coli
LEE	LITTLE RIVER	NHRIV600030707-07	Escherichia coli
LEE	LAMPREY RIVER	NHRIV600030709-07	Escherichia coli
LEE	OYSTER RIVER	NHRIV600030902-03	Escherichia coli
LEE	OYSTER RIVER - CHELSEY BROOK	NHRIV600030902-04	Escherichia coli
LEE	WENDYS BROOK	NHRIV600030902-16	Escherichia coli
MADBURY	JOHNSON CREEK - GERRISH BROOK	NHRIV600030902-13	Escherichia coli
MADBURY	BELLAMY RIVER - KELLY BROOK - KNOX MARSH BROOK	NHRIV600030903-08	Escherichia coli
MANCHESTER	MERRIMACK RIVER - AMOSKEAG DAM	NHIMP700060802-04	Escherichia coli

Primary Town	Waterbody Name	Assessment Unit #	Impairment
MANCHESTER	CRYSTAL LAKE-TOWN BEACH	NHLAK700060703-02-02	Escherichia coli
MANCHESTER	COHAS BROOK - LONG POND BROOK	NHRIV700060703-05	Escherichia coli
MANCHESTER	UNNAMED BROOK - FROM PINE ISLAND POND TO MERRIMACK RIVER	NHRIV700060703-09	Escherichia coli
MANCHESTER	MERRIMACK RIVER	NHRIV700060803-14-02	Escherichia coli
MANCHESTER	UNNAMED BROOK - TO PISCATAQUOG RIVER	NHRIV700060607-35	Escherichia coli
MANCHESTER	RAYS BROOK	NHRIV700060802-15	Escherichia coli
MERRIMACK	NATICOOK LAKE - WASSERMAN PARK BEACH	NHLAK700061002-04-02	Escherichia coli
MERRIMACK	MERRIMACK RIVER	NHRIV700060804-11	Escherichia coli
MERRIMACK	SOUHEGAN RIVER	NHRIV700060906-18	Escherichia coli
MERRIMACK	SOUHEGAN RIVER	NHRIV700060906-25	Escherichia coli
MERRIMACK	PENNICHUCK BROOK - WITCHES BROOK	NHRIV700061001-07	Escherichia coli
MERRIMACK	MERRIMACK RIVER	NHRIV700061002-13	Escherichia coli
MILFORD	SOUHEGAN RIVER - MCLANE DAM	NHIMP700060906-08	Escherichia coli
MILFORD	PURGATORY BROOK	NHRIV700060904-07	Escherichia coli
MILFORD	SOUHEGAN RIVER	NHRIV700060904-14	Escherichia coli
MILFORD	GREAT BROOK - OX BROOK	NHRIV700060906-12	Escherichia coli
MILFORD	SOUHEGAN RIVER	NHRIV700060906-13	Escherichia coli
MILTON	MILTON POND - MILTON POND REC AREA BEACH	NHLAK600030404-01-03	Escherichia coli
MILTON	DAMES BROOK	NHRIV600030601-07	Escherichia coli
NASHUA	NASHUA RIVER - JACKSON PLANT DAM POND	NHIMP700040402-05	Escherichia coli
NASHUA	NASHUA RIVER	NHRIV700040402-08	Escherichia coli
NASHUA	NASHUA RIVER	NHRIV700040402-09	Escherichia coli
NASHUA	MERRIMACK RIVER	NHRIV700061002-14	Escherichia coli
NASHUA	SALMON BROOK - HASSELLS BROOK - OLD MAIDS BROOK - HALE BROOK	NHRIV700061201-05	Escherichia coli
NASHUA	SALMON BROOK	NHRIV700061201-07	Escherichia coli
NASHUA	MERRIMACK RIVER	NHRIV700061206-24	Escherichia coli

Primary Town	Waterbody Name	Assessment Unit #	Impairment
NASHUA	NASHUA RIVER - NASHUA CANAL DIKE	NHIMP700040402-03	Escherichia coli
NEW CASTLE	ATLANTIC OCEAN - NEW CASTLE BEACH	NHOCN000000000-02-02	Enterococcus
NEWINGTON	PICKERING BROOK	NHEST600030904-04-03	Enterococcus
NEWINGTON	PICKERING BROOK	NHEST600030904-04-03	Fecal Coliform
NEWINGTON	FABYAN POINT	NHEST600030904-04-04	Fecal Coliform
NEWINGTON	GREAT BAY - COND APPR	NHEST600030904-04-05	Enterococcus
NEWINGTON	GREAT BAY - COND APPR	NHEST600030904-04-05	Fecal Coliform
NEWINGTON	ADAMS POINT MOORING FIELD SZ	NHEST600030904-06-10	Enterococcus
NEWINGTON	U LITTLE BAY (SOUTH)	NHEST600030904-06-12	Enterococcus
NEWINGTON	U LITTLE BAY (SOUTH)	NHEST600030904-06-12	Fecal Coliform
NEWINGTON	LOWER LITTLE BAY	NHEST600030904-06-13	Fecal Coliform
NEWINGTON	LOWER LITTLE BAY GENERAL SULLIVAN BRIDGE	NHEST600030904-06-15	Fecal Coliform
NEWINGTON	U LITTLE BAY (NORTH)	NHEST600030904-06-16	Enterococcus
NEWINGTON	U LITTLE BAY (NORTH)	NHEST600030904-06-16	Fecal Coliform
NORTH HAMPTON	CHAPEL BROOK	NHEST600031002-03	Fecal colilform
NORTH HAMPTON	ATLANTIC OCEAN - STATE BEACH	NHOCN000000000-02-09	Enterococcus
NORTH HAMPTON	ATLANTIC OCEAN - STATE BEACH	NHOCN000000000-02-09	Fecal Coliform
PELHAM	LONG POND - TOWN BEACH	NHLAK700061205-02-02	Escherichia coli
PELHAM	BEAVER BROOK	NHRIV700061203-22	Escherichia coli
PELHAM	BEAVER BROOK - TONYS BROOK	NHRIV700061205-01	Escherichia coli
PLAISTOW	KELLY BROOK - SEAVER BROOK	NHRIV700061401-04	Escherichia coli
PORTSMOUTH	LOWER PISCATAQUA RIVER - SOUTH	NHEST600031001-02-02	Enterococcus
PORTSMOUTH	UPPER SAGAMORE CREEK	NHEST600031001-03	Fecal colilform
PORTSMOUTH	UPPER SAGAMORE CREEK	NHEST600031001-03	Enterococcus
PORTSMOUTH	LOWER SAGAMORE CREEK	NHEST600031001-04	Enterococcus
PORTSMOUTH	SOUTH MILL POND	NHEST600031001-09	Enterococcus
PORTSMOUTH	NORTH MILL POND	NHEST600031001-10	Enterococcus

Primary Town	Waterbody Name	Assessment Unit #	Impairment
PORTSMOUTH	PICKERING BROOK	NHRIV600030904-06	Escherichia coli
PORTSMOUTH	SAGAMORE CREEK	NHRIV600031001-03	Escherichia coli
PORTSMOUTH	LOWER HODGSON BROOK	NHRIV600031001-04	Escherichia coli
PORTSMOUTH	UPPER HODGSON BROOK	NHRIV600031001-05	Escherichia coli
PORTSMOUTH	PAULS BROOK - PEASE AIR FORCE BASE	NHRIV600031001-07	Escherichia coli
PORTSMOUTH	BORTHWICK AVE TRIBUTARY	NHRIV600031001-09	Escherichia coli
PORTSMOUTH	NEWFILEDS DITCH	NHRIV600031001-10	Escherichia coli
ROCHESTER	SALMON FALLS RIVER - BAXTER MILL DAM POND	NHIMP600030405-04	Escherichia coli
ROCHESTER	COCHECO RIVER - CITY DAM	NHIMP600030603-01	Escherichia coli
ROCHESTER	COCHECO RIVER - GONIC DAM POND	NHIMP600030607-02	Escherichia coli
ROCHESTER	AXE HANDLE BROOK - HOWARD BROOK	NHRIV600030602-03	Escherichia coli
ROCHESTER	COCHECO RIVER	NHRIV600030603-06	Escherichia coli
ROCHESTER	COCHECO RIVER	NHRIV600030603-08	Escherichia coli
ROCHESTER	WILLOW BROOK	NHRIV600030603-10	Escherichia coli
ROCHESTER	ISINGLASS RIVER	NHRIV600030607-10	Escherichia coli
ROLLINSFORD	SALMON FALLS RIVER - SOUTH BERWICK DAM	NHIMP600030406-04	Escherichia coli
ROLLINSFORD	FRESH CREEK - TWOMBLY BROOK	NHRIV600030608-08	Escherichia coli
ROLLINSFORD	ROLLINS BROOK	NHRIV600030608-10	Escherichia coli
ROLLINSFORD	FRESH CREEK	NHRIV600030608-11	Escherichia coli
RYE	WITCH CREEK	NHEST600031002-01-01	Enterococcus
RYE	WITCH CREEK	NHEST600031002-01-01	Fecal Coliform
RYE	BERRYS BROOK	NHEST600031002-01-02	Enterococcus
RYE	BERRYS BROOK	NHEST600031002-01-02	Fecal Coliform
RYE	UNNAMED BROOK TO BASS BEACH	NHEST600031002-04	Fecal colilform
RYE	PARSONS CREEK	NHEST600031002-05	Fecal colilform
RYE	ATLANTIC OCEAN - PIRATES COVE BEACH	NHOCN000000000-02-04	Enterococcus
RYE	ATLANTIC OCEAN - CABLE BEACH	NHOCN000000000-02-05	Enterococcus
RYE	ATLANTIC OCEAN - SAWYER BEACH	NHOCN000000000-02-06	Enterococcus

Primary Town	Waterbody Name	Assessment Unit #	Impairment
RYE	ATLANTIC OCEAN - SAWYER BEACH	NHOCN000000000-02-06	Fecal Coliform
RYE	ATLANTIC OCEAN - JENNESS BEACH	NHOCN000000000-02-07	Enterococcus
RYE	BASS BROOK BEACH OUTFALL AREA	NHOCN000000000-03-01	Enterococcus
RYE	BASS BROOK BEACH OUTFALL AREA	NHOCN000000000-03-01	Fecal Coliform
RYE	ATLANTIC OCEAN - BASS BEACH	NHOCN000000000-03-02	Enterococcus
RYE	ATLANTIC OCEAN - BASS BEACH	NHOCN000000000-03-02	Fecal Coliform
RYE	BERRY'S BROOK	NHRIV600031002-01	Escherichia coli
RYE	UNNAMED BROOKS - TO ATLANTIC OCEAN AT CONCORD POINT	NHRIV600031002-03	Escherichia coli
SALEM	CAPTAIN POND - CAPTAIN'S BEACH	NHLAK700061102-03-02	Escherichia coli
SALEM	CAPTAIN POND - CAMP OTTER SWIM AREA BEACH	NHLAK700061102-03-03	Escherichia coli
SALEM	ARLINGTON MILL RESERVOIR- SECOND ST BEACH	NHLAK700061101-04-02	Escherichia coli
SALEM	MILLVILLE LAKE - TOWN BEACH	NHLAK700061102-06-02	Escherichia coli
SANDOWN	EXETER RIVER	NHRIV600030802-03	Escherichia coli
SEABROOK	MILL CREEK	NHEST600031004-07	Enterococcus
SEABROOK	BLACKWATER RIVER	NHEST600031004-08-04	Enterococcus
SEABROOK	SEABROOK HARBOR BEACH	NHEST600031004-09-05	Enterococcus
SEABROOK	CAINS BROOK - NOYES POND	NHIMP600031004-06	Escherichia coli
SEABROOK	ATLANTIC OCEAN - SEABROOK TOWN BEACH	NHOCN000000000-02-11	Enterococcus
SEABROOK	CAIN'S BROOK	NHRIV600031004-10	Escherichia coli
SEABROOK	CAIN'S BROOK	NHRIV600031004-12	Escherichia coli
SEABROOK	UNNAMED BROOK TO CAINS MILL POND	NHRIV600031004-21	Escherichia coli
SOMERSWORTH	SALMON FALLS RIVER - LOWER GREAT FALLS DAM	NHIMP600030406-02	Escherichia coli

Primary Town	Waterbody Name	Assessment Unit #	Impairment
SOMERSWORTH	SALMON FALLS RIVER	NHRIV600030405-14	Escherichia coli
SOMERSWORTH	SALMON FALLS RIVER	NHRIV600030406-03	Escherichia coli
SOMERSWORTH	WILLAND POND	NHLAK600030405-03	Escherichia coli

Table F-1 – Waterbodies and Primary Municipalities subject to a Bacteria TMDL.

III. Lake and Pond Phosphorus TMDLs

Baboosic Lake, Country Pond, Dorrs Pond, Flints Pond, Greenwood Pond, Halfmoon Pond, Hoods Pond, Horseshoe Pond, Nutt Pond, Pine Island Pond, Robinson Pond, Sebbins Pond, Showell Pond, Stevens Pond

- Municipalities: Amherst, Bedford, Derry, Hollis, Hudson, Kingston, Manchester, Merrimack, Raymond, Sandown, other municipalities with MS4 discharges to these waterbodies and non-traditional and transportation MS4s discharging to these waterbodies
- Water Quality Goal of the TMDL is to establish Total Phosphorus (TP) loading targets that, if achieved, will result in consistency with the State of New Hampshire Water Quality criteria. Water quality that is consistent with state standards is, a priori, expected to protect designated uses. The lake phosphorus TMDLs were developed with the following objectives:

  • Describe potential sources and estimate the existing phosphorus loading to the lake;
  • Estimate the loading capacity;
  • Allocate the load among sources;
  • Provide alternate allocation scenarios;
  • Suggest elements to be included in an implementation plan;
  • Suggest elements to be included in a monitoring plan;
  • Provide reasonable assurances that the plans will be acted upon; and
  • Describe public participation in the TMDL process.

- Goal of the Implementation Plan: provide recommendations for future BMP work and necessary water quality improvements. The recommendations are intended to provide options of potential watershed and lake management strategies that can improve water quality to meet target loads.
- Measures to address the TMDLs: Permittees that operate regulated MS4s located within these municipalities that discharge to the identified impaired waters must reduce phosphorus discharges to support achievement of the WLA included in the approved TMDLs.

1. To address phosphorus, the permittee shall develop a Lake Phosphorus Control Plan (LPCP) designed to reduce the amount of phosphorus in stormwater discharges from its MS4 to the impaired waterbody or its tributaries consistent with assumptions and requirements of the WLA for the phosphorous loadings published in the applicable phosphorus TMDL (see Table F-2 for TMDL names and links to applicable phosphorus TMDLs). Table F-2, Appendix F provides the percent reductions in stormwater total phosphorus load for each municipality to be consistent with the assumptions and requirements of the WLA.

Water Body Name	Primary Town	% Reduction In TP Load for all Sources	TMDL Link
Baboosic Lake	Amherst	44%	Baboosic TMDL
Horseshoe Pond	Merrimack	76%	Horseshoe TMDL
Nutt Pond	Manchester	71%	Nutt TMDL
Pine Island Pond	Manchester	73%	Pine Island TMDL
Robinson Pond	Hudson	48%	Robinson TMDL
Sebbins Pond	Bedford	64%	Sebbins TMDL
Showell Pond	Sandown	69%	Showell TMDL
Stevens Pond	Manchester	50%	Stevens TMDL
Hoods Pond	Derry	80%	Hoods TMDL
Halfmoon Pond	Kingston	74%	Halfmoon TMDL
Greenwood Pond	Kingston	69%	Greenwood TMDL
Flints Pond	Hollis	40%	Flints TMDL
Dorrs Pond	Manchester	62%	Dorrs TMDL
Country Pond	Kingston	52%	Country TMDL
Governors Lake	Raymond	47%	Governors TMDL

Table F-2: Waterbodies and Primary Municipalities subject to a Lake or Pond Phosphorus TMDL

i. The permittee shall develop a Lake Phosphorous Control Plan (LPCP) as part of its written SWMP and update the LPCP in annual reports pursuant to Part 4.4 of the Permit. The LPCP shall describe measures the permittee will undertake to reduce the amount of phosphorous in MS4 discharges.

ii. The LPCP shall be implemented in accordance with the following schedule and contain the following elements:

a. LPCP Implementation Schedule – The permittee shall complete the implementation of its LPCP as soon as possible but no later than 15 years after the effective date of the permit.

b. The LPCP shall be implemented in accordance with the following schedule and contain the following elements:

Number	LPCP Component and Milestones	Completion Date
1	Legal Analysis	2 years after permit effective date
2	Funding source assessment	3 years after permit effective date
3	Define LPCP scope (LPCP Area)	4 years after permit effective date
4	Calculate Baseline Phosphorus, Allowable Phosphorus Load and Phosphorus Reduction	4 years after permit effective date

	Requirement	
5	Description of planned nonstructural and structural controls	5 years after permit effective date
6	Description of Operation and Maintenance (O&M) Program	5 years after permit effective date
7	Implementation schedule	5 years after permit effective date
8	Cost and Funding Source Assessment	5 years after permit effective date
9	Complete written LPCP	5 years after permit effective date
10	Full implementation of nonstructural controls.	6 years after permit effective date
11	Performance Evaluation.	6 and 7 years after permit effective date
12	1. Performance Evaluation. 2. Full implementation of all structural controls used to demonstrate that the total phosphorus export rate (P_{exp}) from the LPCP Area in mass/yr is equal to or less than the applicable Allowable Phosphorus Load(P_{allow}) plus the applicable Phosphorus Reduction Requirement (P_{RR}) multiplied by 0.80 $P_{exp} \leq P_{allow} + (P_{RR}\ X\ 0.80)$	8 years after permit effective date
13	Performance Evaluation	9 years after permit effective date
14	1. Performance Evaluation. 2. Update LPCP 3. Full implementation of all structural controls used to demonstrate that the total phosphorus export rate (P_{exp}) from the LPCP Area in mass/yr is equal to or less than the applicable Allowable Phosphorus Load(P_{allow}) plus the applicable Phosphorus Reduction Requirement (P_{RR}) multiplied by 0.60 $P_{exp} \leq P_{allow} + (P_{RR}\ X\ 0.60)$ OR that the permittee has reduced their phosphorus export rate by 30kg/year (whichever is greater, unless full Phosphorus Reduction Requirement has been met)	10years after permit effective date
15	Performance Evaluation	11 and 12 years after permit effective date
16	1. Performance Evaluation. 2. Full implementation of all structural controls used to demonstrate that the total phosphorus export rate (P_{exp}) from the LPCP Area in mass/yr is equal to or	13years after permit effective date

	less than the applicable Allowable Phosphorus Load(P_{allow}) plus the applicable Phosphorus Reduction Requirement (P_{RR}) multiplied by 0.30 $P_{exp} \leq P_{allow} + (P_{RR}\ X\ 0.30)$	
17	Performance Evaluation	14 years after permit effective date
18	1. Performance Evaluation. 2. Full implementation of all structural controls used to demonstrate that the total phosphorus export rate (P_{exp}) from the LPCP Area in mass/yr is equal to or less than the applicable Allowable Phosphorus Load(P_{allow}) $P_{exp} \leq P_{allow}$	15years after permit effective date

Table F-3: LPCP components and milestones

c. Description of LPCP Components:

Legal Analysis- The permittee shall develop and implement an analysis that identifies existing regulatory mechanisms available to the MS4 such as by-laws and ordinances and describe any changes to these regulatory mechanisms that may be necessary to effectively implement the LPCP. This may include the creation or amendment of financial and regulatory authorities. The permittee shall adopt necessary regulatory changes by the end of the permit term.

Scope of the LPCP (LPCP Area) - The permittee shall indicate the area in which the permittee plans to implement the LPCP, this area is known as the "LPCP Area". The LPCP Area can either be: 1) the drainage area to the impaired waterbody within the jurisdiction of the permittee (for a municipality this would be the municipal boundary) or 2) the MS4 regulated area only that is within the drainage area of the impaired waterbody and in the jurisdiction of the permittee. Although the phosphorus control measures need only be applied in those areas in the regulated portion of the permittee's MS4 that are within the impaired waterbody's watershed (see permit Part 1.2.1), permittees may find more cost effective opportunities to reduce phosphorus discharges outside of the regulated area. Therefore, the permittee should consider implementation of measures in non-regulated areas, especially where such implementation requires little or no additional resources; or where such implementation would have a significant and demonstrable effect on phosphorus loading. If the permittee chooses to implement the LPCP only in the regulated MS4 within the watershed of the impaired lake or pond, then the permittee may only demonstrate compliance with the milestones in Table F-3 through controls implemented within the regulated MS4 area (structural and non-structural controls implemented outside of the MS4 regulated area may not be counted towards the meeting the Allowable Phosphorus Load for the purposes of permit compliance).

Calculate Baseline Phosphorus Load (P_{base}), Phosphorus Reduction Requirement (P_{RR}) and Allowable Phosphorus Load (P_{allow}) –Permittees shall calculate their numerical Allowable Phosphorus Load and Phosphorus Reduction Requirement in mass/yr by first estimating their Baseline Phosphorus Load in mass/yr from its LPCP Area consistent with the

methodology in Attachment 1 to Appendix F or the applicable TMDL, the baseline shall only be estimated using land use phosphorus export coefficients in Attachment 1 to Appendix F or the applicable TMDL methodology and not account for phosphorus reductions resulting from implemented structural BMPs completed to date. Table F-2 contains the percent phosphorus reduction required from urban stormwater consistent with the TMDL of each impaired waterbody. The permittee shall apply the applicable required percent reduction in Table F-2 to the calculated Baseline Phosphorus Load to obtain the permittee specific Allowable Phosphorus Load. The Allowable Phosphorus Load shall then be subtracted from the Baseline Phosphorus Load to obtain the permittee specific Phosphorus Reduction Requirement in mass/yr.

Description of planned non-structural controls – The permittee shall describe the non-structural stormwater control measures to be implemented to support the achievement of the milestones in Table F-3. The description of non-structural controls shall include the planned measures, the areas where the measures will be implemented, and the annual phosphorus reductions that are expected to result from their implementation. Annual phosphorus reduction from non-structural BMPs shall be calculated consistent with Attachment 2 to Appendix F. The permittee shall update the description of planned non-structural controls as needed to support the achievement of the milestones in Table F-3, including an update in the updated written LPCP 10 years after the permit effective date.

Description of planned structural controls – The permittee shall develop a priority ranking of areas and infrastructure within the municipality for potential implementation of phosphorus control practices. The ranking shall be developed through the use of available screening and monitoring results collected during the permit term either by the permittee or another entity and the mapping required pursuant to Part 2.3.4.6 of the Permit. The permittee shall also include in this prioritization a detailed assessment of site suitability for potential phosphorus control measures based on soil types and other factors. The permittee shall coordinate this activity with the requirements of Part 2.3.6.e. of the Permit. A description and the result of this priority ranking shall be included in the LPCP. The permittee shall describe the structural stormwater control measures necessary to support achievement of the milestones in Table F-3. The description of structural controls shall include the planned measures, the areas where the measures will be implemented, and the annual phosphorus reductions in units of mass/yr that are expected to result from their implementation. Structural measures to be implemented by a third party[9] may be included in the LPCP. Annual phosphorus reduction from structural BMPs shall be calculated consistent with Attachment 3 to Appendix F. The permittee shall update the description of planned structural controls as needed to support the achievement of the milestones in Table F-3, including an update in the updated written LPCP 10 years after the permit effective date.

Description of Operation and Maintenance (O&M) Program for all planned and existing structural BMPs – The permittee shall establish an Operation and Maintenance Program for all structural BMPs being claimed for phosphorus reduction credit as part the LPCP. This includes BMPs implemented to date as well as BMPs to be implemented. The Operation and Maintenance Program shall become part of the PCP and include: (1) inspection and maintenance schedule for each BMP according to BMP design or

[9] This does not include structural BMPs installed in compliance with any other NPDES stormwater permit that requires phosphorus reductions consistent with a TMDL.

manufacturer specification and (2) program or department responsible for BMP maintenance.

Implementation Schedule – An initial schedule for implementing the BMPs, including, as appropriate: funding, training, purchasing, construction, inspections, monitoring, O&M and other assessment and evaluation components of implementation. Implementation of planned BMPs must begin upon completion of the LPCP, and all non-structural BMPs shall be fully implemented within six years of the permit effective date. Where planned structural BMP retrofits or major drainage infrastructure projects are expected to take additional time to construct, the permittee shall within four years of the effective date of the permit have a schedule for completion of construction consistent with the reduction requirements in Table F-3. The permittee shall complete the implementation of its LPCP as soon as possible or at a minimum in accordance with the milestones set forth in Table F-3. The implementation schedule shall be updated as needed to support the achievement of the milestones in Table F-3, including an update in the updated written LPCP 10 years after the permit effective date.

Cost and funding source assessment – The permittee shall estimate the cost for implementing its LPCP and describe known and anticipated funding mechanisms. The permittee shall describe the steps it will take to implement its funding plan. This may include but is not limited to conceptual development, outreach to affected parties, and development of legal authorities.

Complete written LPCP – The permittee must complete the written LPCP 5 years after permit effective date. The complete LPCP shall include item numbers 1-8 in Table F-3. The permittee shall make the LPCP available to the public for public comment during the LPCP development. EPA encourages the permittee to post the LPCP online to facilitate public involvement. The LPCP shall be updated as needed with an update 10 years after the permit effective date at a minimum to reflect changes in BMP implementation to support achievement of the phosphorus export milestones in Table F-3. The updated LPCP shall build upon the original LPCP and include additional or new BMPs the permittee will use to support the achievement of the milestones in Table F-3.

Performance Evaluation – The permittee shall evaluate the effectiveness of the LPCP by tracking the phosphorus reductions achieved through implementation of structural and non-structural BMPs and tracking increases in phosphorus loading from the LPCP Area beginning six years after the effective date of the permit. Phosphorus reductions shall be calculated consistent with Attachment 2 (non-structural BMP performance), Attachment 3 (structural BMP performance) and Attachment 1 (reductions through land use change), to Appendix F for all BMPs implemented to date[10]. Phosphorus load increases resulting from development shall be calculated consistent with Attachment 1 to Appendix F. Phosphorus loading increases and reductions in units of mass/yr shall be added or subtracted from the calculated Baseline Phosphorus Load to estimate the yearly phosphorous export rate from

[10] Annual phosphorus reductions from structural BMPs installed in the LPCP Area prior to the effective date of this permit shall be calculated consistent with Attachment 3 to Appendix F. Phosphorus Reduction Credit for previously installed BMPs will only be given if the Permittee demonstrates that the BMP is performing up to design specifications or certifies that the BMP has been properly maintained and inspected according to manufacturer design or specifications and provides records of maintenance and inspections. This certification or demonstration shall be part of the annual performance evaluation during the year credit is claimed for the previously installed BMP.

the LPCP Area in mass/yr. The permittee shall also include all information required in Part III.2 of this Appendix in each performance evaluation.

2. Reporting

Beginning 6 years after the permit effective date, the permittee shall include the following in each annual report submitted pursuant to Part 4.4 of the Permit:

1. All non-structural control measures implemented during the reporting year along with the phosphorus reduction in mass/yr (P_{NSred}) calculated consistent with Attachment 2 to Appendix F
2. Structural controls implemented during the reporting year and all previous years including:
    a. Location information of structural BMPs (GPS coordinates or street address)
    b. Phosphorus reduction from all structural BMPs implemented to date in mass/yr (P_{Sred}) calculated consistent with Attachment 3 to Appendix F
    c. Date of last completed maintenance for each Structural control
3. Phosphorus load increases due to development over the previous reporting period and incurred to date (P_{DEVinc}) calculated consistent with Attachment 1 to Appendix F.
4. Estimated yearly phosphorus export rate (P_{exp}) from the LPCP Area calculated using Equation 1. Equation 1 calculates the yearly phosphorus export rate by subtracting yearly phosphorus reductions through implemented nonstructural controls and structural controls to date from the Baseline Phosphorus Load and adding loading increases incurred through development to date. This equation shall be used to demonstrate compliance with the phosphorus reduction milestones required as part of each phase of the LPCP.

$$P_{exp}\left(\frac{mass}{yr}\right) = P_{base}\left(\frac{mass}{yr}\right) - \left(P_{Sred}\left(\frac{mass}{yr}\right) + P_{NSred}\left(\frac{mass}{yr}\right)\right) + P_{DEVinc}\left(\frac{mass}{yr}\right)$$

Equation 1. Equation used to calculate yearly phosphorus export rate from the chosen LPCP Area. P_{exp}=Current phosphorus export rate from the LPCP Area in mass/year. P_{base}=baseline phosphorus export rate from LPCP Area in mass/year. P_{Sred}= yearly phosphorus reduction from implemented structural controls in the LPCP Area in mass/year. P_{NSred}= yearly phosphorus reduction from implemented non-structural controls in the LPCP Area in mass/year. Area in mass/year. P_{DEVinc}= yearly phosphorus increase resulting from development since the year baseline loading was calculated in the LPCP Area in mass/year.

5. Certification that all structural BMPs are being inspected and maintained according to the O&M program specified as part of the PCP. The certification statement shall be:

    I certify under penalty of law that all source control and treatment Best Management Practices being claimed for phosphorus reduction credit have been inspected, maintained and repaired in accordance with manufacturer or design specification. I certify that, to the best of my knowledge, all Best Management Practices being claimed for a phosphorus reduction credit are performing as originally designed.

3. As an alternative to tracking phosphorus reductions as described in Parts III.1.-2 above, the permittee may choose to evaluate the effectiveness of the LPCP or evaluate the effectiveness of previously implemented BMPs or programs at restoring the impaired waterbody by using monitoring or other means. In this case, the permittee shall work with NHDES to develop a monitoring plan or other assessment plan the permittee will use to evaluate the effectiveness of the LPCP or other work the permittee has conducted

in restoring the waterbody. The permittee shall work with NHDES to develop the alternative analysis plan and keep the written plan as part of their SWMP. Until the production of an NHDES approved written alternative analysis plan, the permittee remains subject to the requirements described in Parts III.1-2 above.

Mercury Impaired Waters Statewide[11]

- Pollutant: Mercury
- Municipalities: All
- Water Quality Goal of the TMDL: To reduce atmospheric deposition sources of mercury to achieve water quality standards for mercury in all surface waters.
- Measures to address the TMDL: None required.

[11] Northeast Regional Mercury TMDL (2007)

EPA is reopening the comment period for the 2013 draft New Hampshire small MS4 permit to take comments on new language in section 2.1.1, 2.2 (including all subsections), and 2.3.6 (including all subsections), Appendix F (excluding attachments) and Appendix H (excluding attachments) only, comments received pertaining to other sections of the 2013 draft MS4 permit will not be addressed prior to final issuance of the MS4 permit for New Hampshire. The following pages contain the proposed language Appendix H (excluding attachments), and will completely replace Appendix H (excluding attachments) of the 2013 draft permit released February 12, 2013.

APPENDIX H

Requirements Related to Discharges to Certain Water Quality Limited Waterbodies

Table of Contents

I. Discharges to water quality limited waterbodies and their tributaries where nitrogen is the cause of the impairment

1) Part 2.2.2.a.i. of the permit identifies the permittees subject to additional requirements to address nitrogen in their stormwater discharges because they discharge to waterbodies that are water quality limited due to nitrogen, or their tributaries, without an EPA approved TMDL. Permittees identified in Part 2.2.2.a.i of the permit must identify and implement BMPs designed to reduce nitrogen discharges. To address nitrogen discharges each permittee shall comply with the following requirements:

   a. Additional or Enhanced BMPs

      i. Unless otherwise noted below, the permittee remains subject to all the requirements of Part 2.3. of the permit and shall include the following enhancements to the BMPs required by Part 2.3 of the permit:

         1. Part 2.3.2, Public education and outreach: The permittee shall replace its Residential program required by Part 2.3.2 of the Permit with annual timed messages on the following specific topics, at a minimum. The permittee shall distribute an annual message in the spring (April/May) timeframe that encourages the proper use and disposal of grass clippings and encourages the proper use of slow-release fertilizers. The permittee shall distribute an annual message in the Fall (August/September/October) timeframe encouraging the proper disposal of leaf litter. The permittee shall deliver an annual message on each of these topics, unless the permittee determines that one or more of these issues is not a significant contributor of nitrogen to discharges from the MS4 and the permittee retains documentation of this finding in the SWMP.

         2. Part 2.3.6, Stormwater Management in New Development and Redevelopment: the requirement for adoption/amendment of the permittee's ordinance or other regulatory mechanism shall include a requirement that new development and redevelopment stormwater management BMPs be optimized for nitrogen removal; retrofit inventory and priority ranking under 2.3.6.e shall include consideration of BMPs to reduce nitrogen discharges.

         3. Part 2.3.7, Good House Keeping and Pollution Prevention for Permittee Owned Operations: establish requirements for use of slow release fertilizers on permittee owned property currently using fertilizer, in addition to reducing and managing fertilizer use as provided in 2.3.7.1; establish procedures to properly manage grass cuttings and leaf litter on permittee property, including prohibiting blowing organic waste materials onto adjacent impervious surfaces; increased street sweeping frequency of all municipal owned streets and parking lots to a minimum of two times per year, once in the spring (following winter activities such as sanding) and at least once in the fall (following leaf fall).

   b. Nitrogen Source Identification Report

i. Within four years of the permit effective date the permittee shall complete a Nitrogen Source Identification Report. The report shall include the following elements:

1. Calculation of total MS4 area draining to the water quality limited water segments or their tributaries, incorporating updated mapping of the MS4 and catchment delineations produced pursuant to Part 2.3.4.6,
2. All screening and monitoring results pursuant to Part 2.3.4.7.d., targeting the receiving water segment(s)
3. Impervious area and DCIA for the target catchment
4. Identification, delineation and prioritization of potential catchments with high nitrogen loading
5. Identification of potential retrofit opportunities or opportunities for the installation of structural BMPs during redevelopment

ii. The final Nitrogen Source Identification Report shall be submitted to EPA as part of the year 4 annual report.

c. Potential Structural BMPs

i. Within five years of the permit effective date, the permittee shall evaluate all permittee-owned properties identified as presenting retrofit opportunities or areas for structural BMP installation under permit Part 2.3.6.e.. or identified in the Nitrogen Source Identification Report that are within the drainage area of the impaired water or its tributaries. The evaluation shall include:

1. The next planned infrastructure, resurfacing or redevelopment activity planned for the property (if applicable) OR planned retrofit date;
2. The estimated cost of redevelopment or retrofit BMPs; and
3. The engineering and regulatory feasibility of redevelopment or retrofit BMPs.

ii. The permittee shall provide a listing of planned structural BMPs and a plan and schedule for implementation in the year 5 annual report. The permittee shall plan and install a minimum of one structural BMP as a demonstration project within the drainage area of the water quality limited water or its tributaries within six years of the permit effective date. The demonstration project shall be installed targeting a catchment with high nitrogen load potential. The permittee shall install the remainder of the structural BMPs in accordance with the plan and schedule provided in the year 5 annual report.

iii. Any structural BMPs listed in Table 4-2 of Attachment 1 to Appendix H installed in the regulated area by the permittee or its agents shall be tracked and the permittee shall estimate the nitrogen removal by the BMP consistent with

Attachment 1 to Appendix H. The permittee shall document the BMP type, total area treated by the BMP, the design storage volume of the BMP and the estimated nitrogen removed in mass per year by the BMP in each annual report.

2) At any time, a permittee may submit information to EPA demonstrating that its discharge does not contain a measurable amount of nitrogen by characterizing its discharge using EPA approved lab methods found in Appendix G. Such demonstration must be documented through long term monitoring using outfall characterization recommendations as rigorous as the method recommended by the National Research Council. The National Research Council recommends a minimum of 30 flow weighted composite samples collected over the course of 2-3 years on a variety of storm sizes to characterize a discharge properly (http://www.epa.gov/npdes/pubs/nrc_stormwaterreport.pdf). A written request shall be sent to EPA summarizing the data collected and methods used to characterize each outfall's discharge. If EPA concurs that the discharge does not contain nitrogen, EPA will provide written concurrence to the permittee. Following written concurrence by EPA, the permittee is relieved of the requirements of Appendix H Part I as of the date of EPA's written concurrence and such concurrence shall be retained as part of the permittee's SWMP.

II. Discharges to water quality limited waterbodies and their tributaries where phosphorus is the cause of the impairment

1) Part 2.2.2.b.i. of the permit identifies the permittees subject to additional requirements to address phosphorus in their stormwater discharges because they discharge to waterbodies that are water quality limited due to phosphorus, or their tributaries, without an EPA approved TMDL. Permittees identified in Part 2.2.2.b.i. of the permit must identify and implement BMPs designed to reduce phosphorus discharges. To address phosphorus discharges each permittee shall comply with the following requirements:

   a. Additional or Enhanced BMPs

      i. Unless otherwise noted below, the permittee remains subject to the requirements of Part 2.3. of the permit and shall include the following enhancements to the BMPs required by Part 2.3 of the permit:

         1. Part 2.3.2, Public education and outreach: If the permittee is subject to the requirements of Appendix H Part I.1)a. of this permit, the permittee shall include an educational message about the use of phosphorous-free fertilizers to the educational message during the March/April timeframe as required by Appendix H Part I.1)a. If the permittee is not subject to the requirements of Appendix H Part I.1)a. of this permit, the permittee shall replace its Residential program required by Part 2.3.2 of the Permit with annual timed messages on the following specific topics, at a minimum. The permittee shall distribute an annual message in the spring (March/April) timeframe that encourages the disposal of grass clippings and encourages the proper use of slow-release and phosphorous-free fertilizers. The permittee shall distribute an annual message in the fall (August/September/October) timeframe encouraging the proper disposal of leaf litter. The permittee shall deliver an annual message on each of these topics, unless the permittee determines that one or more of these issues is not a significant contributor of phosphorous to discharges from the MS4 and the permittee retains documentation of this finding in the SWMP.

         2. Part 2.3.6, Stormwater Management in New Development and Redevelopment: the requirement for adoption/amendment of the permittee's ordinance or other regulatory mechanism shall include a requirement that new development and redevelopment stormwater management BMPs be optimized for phosphorus removal; retrofit inventory and priority ranking under 2.3.6.e. shall include consideration of BMPs that infiltrate stormwater where feasible.

         3. Part 2.3.7, Good House Keeping and Pollution Prevention for Permittee Owned Operations: Establish procedures to properly manage grass cuttings and leaf litter on permittee property, including prohibiting blowing organic waste materials onto adjacent impervious surfaces; increased street sweeping frequency of all municipal owned streets and parking lots to a minimum of two times per year, once in the spring

(following winter activities such as sanding) and at least once in the fall (following leaf fall).

b. Phosphorus Source Identification Report

i. Within four years of the permit effective date the permittee shall complete a Phosphorus Source Identification Report. The report shall include the following elements:

1. Calculation of total MS4 area draining to the water quality limited receiving water segments or their tributaries, incorporating updated mapping of the MS4 and catchment delineations produced pursuant to Part 2.3.4.6,
2. All screening and monitoring results pursuant to Part 2.3.4.7.d., targeting the receiving water segment(s)
3. Impervious area and DCIA for the target catchment
4. Identification, delineation and prioritization of potential catchments with high phosphorus loading
5. Identification of potential retrofit opportunities or opportunities for the installation of structural BMPs during redevelopment, including the removal of impervious area of permittee-owned properties

ii. The final phosphorus source identification report shall be submitted to EPA as part of the year 4 annual report.

c. Potential Structural BMPs

i. Within five years of the permit effective date, the permittee shall evaluate all permittee-owned properties identified as presenting retrofit opportunities or areas for structural BMP installation under permit Part 2.3.6.e or identified in the Phosphorus Source Identification Report that are within the drainage area of the water quality limited water or its tributaries. The evaluation shall include:

1. The next planned infrastructure, resurfacing or redevelopment activity planned for the property (if applicable) OR planned retrofit date;
2. The estimated cost of redevelopment or retrofit BMPs; and
3. The engineering and regulatory feasibility of redevelopment or retrofit BMPs.

ii. The permittee shall provide a listing of planned structural BMPs and a plan and schedule for implementation in the year 5 annual report. The permittee shall plan and install a minimum of one structural BMP as a demonstration project within the drainage area of the water quality limited water or its tributaries within six years of the permit effective date. The demonstration project shall be installed targeting a catchment with high phosphorus load potential. The permittee shall install the

remainder of the structural BMPs in accordance with the plan and schedule provided in the year 5 annual report.

iii. Any structural BMPs installed in the regulated area by the permittee or its agents shall be tracked and the permittee shall estimate the phosphorus removal by the BMP consistent with Attachment 3 to Appendix F. The permittee shall document the BMP type, total area treated by the BMP, the design storage volume of the BMP and the estimated phosphorus removed in mass per year by the BMP in each annual report.

2) At any time, a permittee may submit information to EPA demonstrating that its discharge does not contain a measurable amount of phosphorus by characterizing its discharge using EPA approved lab methods found in Appendix G. Such demonstration must be documented through long term monitoring using outfall characterization as rigorous as the method recommended by the National Research Council. The National Research Council recommends a minimum of 30 flow weighted composite samples collected over the course of 2-3 years on a variety of storm sizes to characterize a discharge properly (http://www.epa.gov/npdes/pubs/nrc_stormwaterreport.pdf). A written request shall be sent to EPA summarizing the data collected and methods used to characterize each outfall's discharge. If EPA concurs that the discharge does not contain phosphorus, EPA will provide written concurrence to the permittee. Following written concurrence by EPA, the permittee is relieved of the requirements of Appendix H Part II as of the date of EPA's written concurrence and such concurrence shall be retained as part of the permittee's SWMP.

III. Discharges to water quality limited waterbodies where bacteria or pathogens is the cause of the impairment

1) Consistent with Part 2.2.2.c.i. of the permit, permittees that discharge to waterbodies that are water quality limited due to bacteria or pathogens, without an EPA approved TMDL, are subject to the following additional requirements to address bacteria or pathogens in their stormwater discharges.

2) Permittees discharging to a waterbody listed as impaired due to bacteria or pathogens in categories 5 and 4b on the most recent EPA approved New Hampshire Clean Water Act section 303(d) list or New Hampshire Integrated Report under Clean Water Act section 305(b) shall implement the Additional or Enhanced BMPs in Part III 4) below to reduce bacteria or pathogen discharges from their MS4.

   Permittees remain subject to all schedules and requirements of Part 2.3.4 of the permit pertaining to the removal of illicit connections to the MS4.

3) Additional or Enhanced BMPs

   i. The permittee remains subject to the requirements of Part 2.3. of the permit and shall include the following enhancements to the BMPs required by Part 2.3 of the permit:

      1. Part 2.3.3. Public Education: In addition to Public Education requirements of Part 2.3.3 and/or Appendix H Part I or II, the permittee or its agents shall disseminate educational materials to dog owners at the time of issuance or renewal of a dog license, or other appropriate time. Education materials shall describe the detrimental impacts of improper management of pet waste, requirements for waste collection and disposal, and penalties for non-compliance. The permittee shall also provide information to owners of septic systems (if applicable) about proper maintenance in any catchment that discharges to a water body impaired for bacteria or pathogens.

      2. Part 2.3.4 Illicit Discharge: The permittee shall implement the illicit discharge program required by this permit. Catchments draining to any waterbody impaired for bacteria or pathogens shall be designated either Problem Catchments or HIGH priority in implementation of the IDDE program.

4) At any time, a permittee may submit information to EPA demonstrating that its discharge does not contain a measurable amount of bacteria or pathogens by characterizing its discharge using EPA approved lab methods found in Appendix G. Such demonstration must be documented through long term monitoring using outfall characterization as rigorous as the method recommended by the National Research Council. The National Research Council recommends a minimum of 30 flow weighted composite samples collected over the course of 2-3 years on a variety of storm sizes to characterize a discharge properly (http://www.epa.gov/npdes/pubs/nrc_stormwaterreport.pdf). A written request shall be sent to EPA summarizing the data collected and methods used to characterize each outfall's discharge. If EPA concurs that the discharge does not contain bacteria or pathogens, EPA will provide

written concurrence to the permittee. Following written concurrence by EPA, the permittee is relieved of the requirements of Appendix H Part III as of the date of EPA's written concurrence and such concurrence shall be retained as part of the permittee's SWMP.

IV. Discharges to water quality limited waterbodies where chloride is the cause of the impairment

1) Consistent with Part 2.2.2.d.i. of the permit, permittees that discharge to waterbodies that are water quality limited due to chloride, without an EPA approved TMDL, are subject to the following additional requirements to address chloride in their stormwater discharges.

2) Permittees discharging to a waterbody listed as impaired due to chloride in categories 5 or on the most recent EPA approved New Hampshire Clean Water Act section 303(d) list or New Hampshire Integrated Report under Clean Water Act section 305(b)shall develop a Salt Reduction Plan that includes specific actions designed to achieve salt reduction on municipal roads and facilities, and on private facilities that discharge to its MS4. The Salt Reduction Plan shall be completed within three years of the effective date of the permit and include the BMPs in Part IV 4) below. The Salt Reduction Plan shall be fully implemented five years after the effective date of the permit.

3) Permittees that, during the permit term, become aware that their discharge is to a waterbody that is impaired due to chloride must update their Salt Reduction Plan within 60 days of becoming aware of the situation to include salt reduction practices targeted at lowering chloride in discharges to the impaired waterbody. If the permittee does not have a Salt Reduction Plan already in place, then the permittee shall complete a Salt Reduction Plan that includes the BMPs in Part IV 4) below within 3 years of becoming aware of the situation and fully implement the Salt Reduction Plan within 5 years of becoming aware of the situation.

4) Additional or Enhanced BMPs

   a. For municipally maintained surfaces:

   (i) Tracking of the amount of salt applied to all municipally owned and maintained surfaces and reporting of salt use using the UNH Technology Transfer Center online tool (http://www.roadsalt.unh.edu/Salt/) beginning in the year 2 annual report;
   (ii) Planned activities for salt reduction on municipally owned and maintained surfaces, which may include but are not limited to:

   - Operational changes such as pre-wetting, pre-treating the salt stockpile, increasing plowing prior to de-icing, monitoring of road surface temperature, etc.;
   - Implementation of new or modified equipment providing pre-wetting capability, better calibration rates, or other capability for minimizing salt use;
   - Training for municipal staff and/or contractors engaged in winter maintenance activities;
   - Adoption of guidelines for application rates for roads and parking lots (see NHDES, Chloride *Reduction Implementation Plan for Dinsmore Brook, App. J and K* (February 2011), http://des.nh.gov/organization/commissioner/pip/publications/wd/docum

ents/wd-11-13.pdf ;: *Winter Parking Lot and Sidewalk Maintenance Manual (Revised edition June 2008)* http://www.pca.state.mn.us/publications/parkinglotmanual.pdf; and the application guidelines on page 17 of *Minnesota Snow and Ice Control: Field Handbook for Snow Operators (September 2012)* http://www.mnltap.umn.edu/publications/handbooks/documents/snowice.pdf for examples);

- Regular calibration of spreading equipment;
- Designation of no-salt and/or low salt zones;
- Public education regarding impacts of salt use, methods to reduce salt use on private property, modifications to driving behavior in winter weather, etc.; and
- Measures to prevent exposure of salt stockpiles (if any) to precipitation and runoff; and

(iii) An estimate of the total tonnage of salt reduction expected by each activity; and

(iv) A schedule for implementation of planned activities including immediate implementation of operational and training measures, continued annual progress on other measures, and full implementation of the Plan by the end of the permit term.

b. For privately maintained facilities that drain to the MS4:

(i) Identification of private parking lots with 10 or more parking spaces draining to the MS4;

(ii) Requirements for private parking lot owners and operators and private street owners and operators (1) that any commercial salt applicators used for applications of salt to their parking lots or streets be trained and certified in accordance with Env-Wq 2203, and (2) to report annual salt usage within the municipal boundaries using the UNH Technology Transfer Center online tool (http://www.roadsalt.unh.edu/Salt/).

(iii) Requirements for new development and redevelopment to minimize salt usage, and to track and report amounts used using the UNH Technology Transfer Center online tool (http://www.roadsalt.unh.edu/Salt/).

5) At any time, a permittee may submit information to EPA demonstrating that its discharge does not contain a measurable amount of chloride by characterizing its discharge using EPA approved lab methods found in Appendix G. Such demonstration must be documented through long term monitoring using outfall characterization as rigorous as the method recommended by the National Research Council. The National Research Council recommends a minimum of 30 flow weighted composite samples collected over the course of 2-3 years on a variety of storm sizes to characterize a discharge properly (http://www.epa.gov/npdes/pubs/nrc_stormwaterreport.pdf). For chloride, discharges should be characterized during the deicing season and capture discharges during deicing events. A written request shall be sent to EPA summarizing the data collected and methods used to characterize each outfall's discharge. If EPA concurs that the discharge does not contain

chloride, EPA will provide written concurrence to the permittee. Following written concurrence by EPA, the permittee is relieved of the requirements of Appendix H Part IV as of the date of EPA's written concurrence and such concurrence shall be retained as part of the permittee's SWMP.

V. Discharges to water quality limited waterbodies and their tributaries where solids, oil and grease (hydrocarbons), or metals is the cause of the impairment

1) Consistent with Part 2.2.2.c.i. of the permit, permittees that discharge to waterbodies that are water quality limited due to solids, metals, or oil and grease (hydrocarbons), without an EPA approved TMDL, are subject to the following additional requirements to address solids, metals, or oil and grease (hydrocarbons) in their stormwater discharges.

2) Permittees discharging to a waterbody listed as impaired due to solids, metals or oil and grease (hydrocarbons) in categories 5 or 4b on the most recent EPA approved New Hampshire Clean Water Act section 303(d) list or New Hampshire Integrated Report under Clean Water Act section 305(b)shall implement the Additional or Enhanced BMPs in Part V 4) below to reduce solids, metals or oil and grease (hydrocarbons) discharges from their MS4.

3) Permittees that, during the permit term, become aware that their discharge is to a waterbody that is water quality limited due to solids, metals or oil and grease (hydrocarbons) must eliminate the condition causing or contributing to the water quality limitation in the receiving waters within 60 days of becoming aware of the condition and document actions taken to eliminate the condition in its SWMP. If the permittee is unable to remove the condition causing or contributing to the water quality limitation the permittee shall implement BMPs designed to reduce solids, metals or oil and grease (hydrocarbons) discharges as described in Part V 4) below.

4) Additional or Enhanced BMPs

   i. The permittee remains subject to the requirements of Part 2.3. of the permit and shall include the following enhancements to the BMPs required by Part 2.3 of the permit:

      1. Part 2.3.6, Stormwater Management in New Development and Redevelopment: stormwater management systems designed on commercial and industrial land use area draining to the water quality limited waterbody shall incorporate designs that allow for shutdown and containment where appropriate to isolate the system in the event of an emergency spill or other unexpected event. EPA also encourages the permittee to require any stormwater management system designed to infiltrate stormwater on commercial or industrial sites to provide the level of pollutant removal equal to or greater than the level of pollutant removal provided through the use of biofiltration as calculated using the methodologies contained in the EPA document: Stormwater Best Management Practices (BMP) Performance Analysis (2010). of the same volume of runoff to be infiltrated, prior to infiltration.

      2. Part 2.3.7, Good House Keeping and Pollution Prevention for Permittee Owned Operations: increased street sweeping and catch basin cleaning frequency of all municipal owned streets and parking lots to a schedule determined by the permittee to target areas with potential for high pollutant loads. This may include, but is not limited to, increased street sweeping frequency in commercial areas and high density residential areas, or drainage areas with a large amount of impervious area. Each annual report shall include the street sweeping schedule determined by the permittee to target high pollutant loads.

5) At any time, a permittee may submit information to EPA demonstrating that its discharge does not contain a measurable amount of solids, oil and grease (hydrocarbons) or metals (depending on which pollutant is relevant to the impairment) by characterizing its discharge using EPA approved lab methods found in Appendix G Such demonstration must be documented through long term monitoring using outfall characterization as rigorous as the method recommended by the characterization recommendations of the National Research Council. The National Research Council recommends a minimum of 30 flow weighted composite samples collected over the course of 2-3 years on a variety of storm sizes to characterize a discharge properly (http://www.epa.gov/npdes/pubs/nrc_stormwaterreport.pdf). A written request shall be sent to EPA summarizing the data collected and methods used to characterize each outfall's discharge. If EPA concurs that the discharge does not contain solids, oil and grease (hydrocarbons) or metals, EPA will provide written concurrence to the permittee. Following written concurrence by EPA, the permittee is relieved of the requirements of Appendix H Part V as of the date of EPA's written concurrence and such concurrence shall be retained as part of the permittee's SWMP.